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SAR EVALUATION REPORT

Applicant Name:
Apple Inc.
One Apple Park Way
Cupertino, CA 95014 USA

Date of Testing:
06/03/2021 – 07/29/2021
Test Site/Location:
PCTEST Lab, Morgan Hill, CA, USA
Document Serial No.:
1C2106080051-18.BCG (Rev 1)

FCC ID:	**BCGA2603**
APPLICANT:	**APPLE, INC.**

DUT Type:	Tablet Device
Application Type:	Certification
FCC Rule Part(s):	CFR §2.1093
Model:	A2603

Equipment Class	Band & Mode	Tx Frequency	SAR
			1g Body (W/kg)
PCB	UMTS 850	826.40 - 846.60 MHz	1.11
PCB	UMTS 1750	1712.4 - 1752.6 MHz	1.08
PCB	UMTS 1900	1852.4 - 1907.6 MHz	1.16
PCB	LTE Band 71	665.5 - 695.5 MHz	0.95
PCB	LTE Band 12	699.7 - 715.3 MHz	0.95
PCB	LTE Band 17	706.5 - 713.5 MHz	N/A
PCB	LTE Band 13	779.5 - 784.5 MHz	0.99
PCB	LTE Band 14	790.5 - 795.5 MHz	0.98
PCB	LTE Band 26 (Cell)	814.7 - 848.3 MHz	1.15
PCB	LTE Band 5 (Cell)	824.7 - 848.3 MHz	1.13
PCB	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	1.11
PCB	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	N/A
PCB	LTE Band 25 (PCS)	1850.7 - 1914.3 MHz	1.07
PCB	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A
PCB	LTE Band 30	2307.5 - 2312.5 MHz	0.93
PCB	LTE Band 7	2502.5 - 2567.5 MHz	1.18
PCB	LTE Band 41	2498.5 - 2687.5 MHz	1.19
DTS	2.4 GHz WLAN	2412 - 2472 MHz	0.92
NII	U-NII-1	5180 - 5240 MHz	N/A
NII	U-NII-2A	5260 - 5320 MHz	1.13
NII	U-NII-2C	5500 - 5720 MHz	1.02
NII	U-NII-3	5745 - 5825 MHz	0.92
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.87
Simultaneous SAR per KDB 690783 D01v01r03:			1.47

Note: This revised Test Report supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.7 of this report; for North American frequency bands only.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

Randy Ortanez
President

The SAR Tick is an initiative of the Mobile & Wireless Forum (MWF). While a product may be considered eligible, use of the SAR Tick logo requires an agreement with the MWF. Further details can be obtained by emailing: sartick@mwfai.info.

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
UMTS 850	Data	826.40 - 846.60 MHz
UMTS 1750	Data	1712.4 - 1752.6 MHz
UMTS 1900	Data	1852.4 - 1907.6 MHz
LTE Band 71	Data	665.5 - 695.5 MHz
LTE Band 12	Data	699.7 - 715.3 MHz
LTE Band 17	Data	706.5 - 713.5 MHz
LTE Band 13	Data	779.5 - 784.5 MHz
LTE Band 14	Data	790.5 - 795.5 MHz
LTE Band 26 (Cell)	Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Data	1850.7 - 1909.3 MHz
LTE Band 30	Data	2307.5 - 2312.5 MHz
LTE Band 7	Data	2502.5 - 2567.5 MHz
LTE Band 41	Data	2498.5 - 2687.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2472 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz

1.2 Power Reduction for SAR

This device uses the manufacturer's proprietary motion detect mode to determine proximity to the user's body and set licensed power level accordingly for SAR compliance. When being used in the hand or the body, the output power for licensed transmitters will always be reduced. Per FCC KDB Guidance, SAR Testing was performed only using reduced output powers following the test positions in KDB Publications 616217.

This device additionally utilizes a power reduction mechanism for Bluetooth operations. When Bluetooth is operating simultaneously with 5 GHz WLAN, the output power is permanently reduced. SAR evaluations were additionally performed at the maximum allowed output power for these scenarios to evaluate simultaneous transmission compliance.

Detailed descriptions of the power reduction mechanisms are included in the operational description. The power reduction mechanisms were confirmed during the SAR evaluation. Appendix G contains a summary of the verification results.

1.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v06.

1.3.1 3G/4G Output Power for Portable Use Conditions

A. Antenna C

Mode/Band		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
UMTS Band 5 (850 MHz)	Max allowed power	**17.70**	**17.70**	**17.70**	**17.70**
	Nominal	**17.20**	**17.20**	**17.20**	**17.20**
UMTS Band 4 (1750 MHz)	Max allowed power	**13.30**	**13.30**	**13.30**	**13.30**
	Nominal	**12.80**	**12.80**	**12.80**	**12.80**
UMTS Band 2 (1900 MHz)	Max allowed power	**13.10**	**13.10**	**13.10**	**13.10**
	Nominal	**12.60**	**12.60**	**12.60**	**12.60**

Mode / Band		Modulated Average Output Power (in dBm)
LTE FDD Band 71	Max allowed power	**18.10**
	Nominal	**17.60**
LTE FDD Band 12	Max allowed power	**17.50**
	Nominal	**17.00**
LTE FDD Band 17	Max allowed power	**17.50**
	Nominal	**17.00**
LTE FDD Band 13	Max allowed power	**18.10**
	Nominal	**17.60**
LTE FDD Band 14	Max allowed power	**18.10**
	Nominal	**17.60**
LTE FDD Band 26	Max allowed power	**18.20**
	Nominal	**17.70**
LTE FDD Band 5	Max allowed power	**17.70**
	Nominal	**17.20**
LTE FDD Band 4	Max allowed power	**13.30**
	Nominal	**12.80**
LTE FDD Band 66	Max allowed power	**13.30**
	Nominal	**12.80**
LTE FDD Band 2	Max allowed power	**13.10**
	Nominal	**12.60**
LTE FDD Band 25	Max allowed power	**13.10**
	Nominal	**12.60**
LTE FDD Band 30	Max allowed power	**13.20**
	Nominal	**12.70**
LTE FDD Band 7	Max allowed power	**12.40**
	Nominal	**11.90**
LTE FDD Band 7 Intra-band ULCA	Max allowed power	**12.40**
	Nominal	**11.40**
LTE TDD Band 41 (PC3)	Max allowed power	**14.50**
	Nominal	**14.00**
LTE TDD Band 41 (PC3) Intra-band ULCA	Max allowed power	**14.50**
	Nominal	**13.50**
LTE TDD Band 41 (PC2)	Max allowed power	**14.50**
	Nominal	**14.00**

B. Antenna D

Mode/Band		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
UMTS Band 5 (850 MHz)	Max allowed power	**19.20**	**19.20**	**19.20**	**19.20**
	Nominal	**18.70**	**18.70**	**18.70**	**18.70**
UMTS Band 4 (1750 MHz)	Max allowed power	**13.20**	**13.20**	**13.20**	**13.20**
	Nominal	**12.70**	**12.70**	**12.70**	**12.70**
UMTS Band 2 (1900 MHz)	Max allowed power	**12.00**	**12.00**	**12.00**	**12.00**
	Nominal	**11.50**	**11.50**	**11.50**	**11.50**

Mode / Band		Modulated Average Output Power (in dBm)
LTE FDD Band 71	Max allowed power	**17.20**
	Nominal	**16.70**
LTE FDD Band 12	Max allowed power	**17.20**
	Nominal	**16.70**
LTE FDD Band 17	Max allowed power	**17.20**
	Nominal	**16.70**
LTE FDD Band 13	Max allowed power	**18.30**
	Nominal	**17.80**
LTE FDD Band 14	Max allowed power	**18.30**
	Nominal	**17.80**
LTE FDD Band 26	Max allowed power	**18.20**
	Nominal	**17.70**
LTE FDD Band 5	Max allowed power	**19.20**
	Nominal	**18.70**
LTE FDD Band 4	Max allowed power	**13.20**
	Nominal	**12.70**
LTE FDD Band 66	Max allowed power	**13.20**
	Nominal	**12.70**
LTE FDD Band 2	Max allowed power	**12.00**
	Nominal	**11.50**
LTE FDD Band 25	Max allowed power	**12.00**
	Nominal	**11.50**
LTE FDD Band 30	Max allowed power	**12.80**
	Nominal	**12.30**
LTE FDD Band 7	Max allowed power	**12.40**
	Nominal	**11.90**
LTE FDD Band 7 Intra-band ULCA	Max allowed power	**12.40**
	Nominal	**11.40**
LTE TDD Band 41 (PC3)	Max allowed power	**14.50**
	Nominal	**14.00**
LTE TDD Band 41 (PC3) Intra-band ULCA	Max allowed power	**14.50**
	Nominal	**13.50**
LTE TDD Band 41 (PC2)	Max allowed power	**14.50**
	Nominal	**14.00**

1.3.2 Unlicensed Maximum Output Power

Mode/ Band			IEEE 802.11b (2.4 GHz)		IEEE 802.11g (2.4 GHz)		IEEE 802.11n (2.4 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - Antenna A	20 MHz Bandwidth	1	16.00	14.50	15.00	13.50	15.00	13.50
		2	16.00	14.50	16.00	14.50	16.00	14.50
		3	16.00	14.50	16.00	14.50	16.00	14.50
		4	16.00	14.50	16.00	14.50	16.00	14.50
		5	16.00	14.50	16.00	14.50	16.00	14.50
		6	16.00	14.50	16.00	14.50	16.00	14.50
		7	16.00	14.50	16.00	14.50	16.00	14.50
		8	16.00	14.50	16.00	14.50	16.00	14.50
		9	16.00	14.50	16.00	14.50	16.00	14.50
		10	16.00	14.50	16.00	14.50	16.00	14.50
		11	16.00	14.50	14.00	12.50	14.00	12.50
		12	16.00	14.50	11.00	9.50	11.00	9.50
		13	14.00	12.50	2.00	0.50	2.00	0.50

Mode/ Band			IEEE 802.11g (2.4 GHz)		IEEE 802.11n (2.4 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) - Antenna A	20 MHz Bandwidth	1	13.50	12.00	13.50	12.00
		2	16.00	14.50	16.00	14.50
		3	16.00	14.50	16.00	14.50
		4	16.00	14.50	16.00	14.50
		5	16.00	14.50	16.00	14.50
		6	16.00	14.50	16.00	14.50
		7	16.00	14.50	16.00	14.50
		8	16.00	14.50	16.00	14.50
		9	16.00	14.50	16.00	14.50
		10	16.00	14.50	16.00	14.50
		11	13.00	11.50	13.00	11.50
		12	10.00	8.50	10.00	8.50
		13	0.00	-1.50	0.00	-1.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

Mode/ Band			IEEE 802.11b (2.4 GHz)		IEEE 802.11g (2.4 GHz)		IEEE 802.11n (2.4 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - Antenna B	20 MHz Bandwidth	1	16.00	14.50	15.00	13.50	15.00	13.50
		2	16.00	14.50	16.00	14.50	16.00	14.50
		3	16.00	14.50	16.00	14.50	16.00	14.50
		4	16.00	14.50	16.00	14.50	16.00	14.50
		5	16.00	14.50	16.00	14.50	16.00	14.50
		6	16.00	14.50	16.00	14.50	16.00	14.50
		7	16.00	14.50	16.00	14.50	16.00	14.50
		8	16.00	14.50	16.00	14.50	16.00	14.50
		9	16.00	14.50	16.00	14.50	16.00	14.50
		10	16.00	14.50	16.00	14.50	16.00	14.50
		11	16.00	14.50	14.00	12.50	14.00	12.50
		12	16.00	14.50	11.00	9.50	11.00	9.50
		13	14.00	12.50	2.00	0.50	2.00	0.50

Mode/ Band			IEEE 802.11g (2.4 GHz)		IEEE 802.11n (2.4 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) - Antenna B	20 MHz Bandwidth	1	13.50	12.00	13.50	12.00
		2	16.00	14.50	16.00	14.50
		3	16.00	14.50	16.00	14.50
		4	16.00	14.50	16.00	14.50
		5	16.00	14.50	16.00	14.50
		6	16.00	14.50	16.00	14.50
		7	16.00	14.50	16.00	14.50
		8	16.00	14.50	16.00	14.50
		9	16.00	14.50	16.00	14.50
		10	16.00	14.50	16.00	14.50
		11	13.00	11.50	13.00	11.50
		12	10.00	8.50	10.00	8.50
		13	0.00	-1.50	0.00	-1.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

Mode / Band		Modulated Average - Single Tx Chain - Antenna A (dBm)
Bluetooth BDR/LE	Maximum	**17.00**
	Nominal	**15.50**
Bluetooth EDR	Maximum	**12.50**
	Nominal	**11.00**

Mode/ Band			IEEE 802.11a (5 GHz)		IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - 5GHz Antenna A	20 MHz Bandwidth	36	16.00	14.50	16.00	14.50	16.00	14.50
		40	16.50	15.00	16.50	15.00	16.50	15.00
		44	16.50	15.00	16.50	15.00	16.50	15.00
		48	16.50	15.00	16.50	15.00	16.50	15.00
		52	17.00	15.50	17.00	15.50	17.00	15.50
		56	17.00	15.50	17.00	15.50	17.00	15.50
		60	17.00	15.50	17.00	15.50	17.00	15.50
		64	16.00	14.50	16.00	14.50	16.00	14.50
		100	14.50	13.00	14.50	13.00	14.50	13.00
		104	17.50	16.00	17.50	16.00	17.50	16.00
		108	17.50	16.00	17.50	16.00	17.50	16.00
		112	17.50	16.00	17.50	16.00	17.50	16.00
		116	17.50	16.00	17.50	16.00	17.50	16.00
		120	17.50	16.00	17.50	16.00	17.50	16.00
		124	17.50	16.00	17.50	16.00	17.50	16.00
		128	17.50	16.00	17.50	16.00	17.50	16.00
		132	17.50	16.00	17.50	16.00	17.50	16.00
		136	17.50	16.00	17.50	16.00	17.50	16.00
		140	13.00	11.50	13.00	11.50	13.00	11.50
		144	17.50	16.00	17.50	16.00	17.50	16.00
		149	16.25	14.75	16.25	14.75	16.25	14.75
		153	16.25	14.75	16.25	14.75	16.25	14.75
		157	16.25	14.75	16.25	14.75	16.25	14.75
		161	16.25	14.75	16.25	14.75	16.25	14.75
		165	16.25	14.75	16.25	14.75	16.25	14.75
	40 MHz Bandwidth	38			13.00	11.50	13.00	11.50
		46			16.50	15.00	16.50	15.00
		54			17.00	15.50	17.00	15.50
		62			14.50	13.00	14.50	13.00
		102			12.50	11.00	12.50	11.00
		110			17.50	16.00	17.50	16.00
		118			17.50	16.00	17.50	16.00
		126			17.50	16.00	17.50	16.00
		134			14.00	12.50	14.00	12.50
		142			17.50	16.00	17.50	16.00
		151			16.25	14.75	16.25	14.75
		159			16.25	14.75	16.25	14.75
	80 MHz Bandwidth	42					11.50	10.00
		58					12.00	10.50
		106					12.00	10.50
		122					15.00	13.50
		138					17.50	16.00
		155					15.00	13.50

Mode/ Band			IEEE 802.11a (5 GHz)		IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) CDD - 5GHz Antenna A	20 MHz Bandwidth	36	15.00	13.50	15.00	13.50	15.00	13.50
		40	16.50	15.00	16.50	15.00	16.50	15.00
		44	16.50	15.00	16.50	15.00	16.50	15.00
		48	16.50	15.00	16.50	15.00	16.50	15.00
		52	16.50	15.00	16.50	15.00	16.50	15.00
		56	16.50	15.00	16.50	15.00	16.50	15.00
		60	16.50	15.00	16.50	15.00	16.50	15.00
		64	14.50	13.00	14.50	13.00	14.50	13.00
		100	14.00	12.50	14.00	12.50	14.00	12.50
		104	15.50	14.00	15.50	14.00	15.50	14.00
		108	15.50	14.00	15.50	14.00	15.50	14.00
		112	15.50	14.00	15.50	14.00	15.50	14.00
		116	15.50	14.00	15.50	14.00	15.50	14.00
		120	15.50	14.00	15.50	14.00	15.50	14.00
		124	15.50	14.00	15.50	14.00	15.50	14.00
		128	15.50	14.00	15.50	14.00	15.50	14.00
		132	15.50	14.00	15.50	14.00	15.50	14.00
		136	15.50	14.00	15.50	14.00	15.50	14.00
		140	12.00	10.50	12.00	10.50	12.00	10.50
		144	15.50	14.00	15.50	14.00	15.50	14.00
		149	16.25	14.75	16.25	14.75	16.25	14.75
		153	16.25	14.75	16.25	14.75	16.25	14.75
		157	16.25	14.75	16.25	14.75	16.25	14.75
		161	16.25	14.75	16.25	14.75	16.25	14.75
		165	16.25	14.75	16.25	14.75	16.25	14.75
	40 MHz Bandwidth	38			11.50	10.00	11.50	10.00
		46			16.50	15.00	16.50	15.00
		54			16.00	14.50	16.00	14.50
		62			11.50	10.00	11.50	10.00
		102			11.50	10.00	11.50	10.00
		110			17.00	15.50	17.00	15.50
		118			17.50	16.00	17.50	16.00
		126			17.00	15.50	17.00	15.50
		134			12.50	11.00	12.50	11.00
		142			17.50	16.00	17.50	16.00
		151			16.25	14.75	16.25	14.75
		159			16.25	14.75	16.25	14.75
	80 MHz Bandwidth	42					10.00	8.50
		58					10.50	9.00
		106					10.50	9.00
		122					13.50	12.00
		138					17.50	16.00
		155					14.00	12.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

Mode/ Band			IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) SDM - 5GHz Antenna A	20 MHz Bandwidth	36	15.00	13.50	15.00	13.50
		40	16.50	15.00	16.50	15.00
		44	16.50	15.00	16.50	15.00
		48	16.50	15.00	16.50	15.00
		52	17.00	15.50	17.00	15.50
		56	17.00	15.50	17.00	15.50
		60	17.00	15.50	17.00	15.50
		64	14.50	13.00	14.50	13.00
		100	14.00	12.50	14.00	12.50
		104	17.50	16.00	17.50	16.00
		108	17.50	16.00	17.50	16.00
		112	17.50	16.00	17.50	16.00
		116	17.50	16.00	17.50	16.00
		120	17.50	16.00	17.50	16.00
		124	17.50	16.00	17.50	16.00
		128	17.50	16.00	17.50	16.00
		132	17.50	16.00	17.50	16.00
		136	17.50	16.00	17.50	16.00
		140	12.00	10.50	12.00	10.50
		144	17.50	16.00	17.50	16.00
		149	16.25	14.75	16.25	14.75
		153	16.25	14.75	16.25	14.75
		157	16.25	14.75	16.25	14.75
		161	16.25	14.75	16.25	14.75
		165	16.25	14.75	16.25	14.75
	40 MHz Bandwidth	38	11.50	10.00	11.50	10.00
		46	16.50	15.00	16.50	15.00
		54	16.00	14.50	16.00	14.50
		62	11.50	10.00	11.50	10.00
		102	11.50	10.00	11.50	10.00
		110	17.00	15.50	17.00	15.50
		118	17.50	16.00	17.50	16.00
		126	17.00	15.50	17.00	15.50
		134	12.50	11.00	12.50	11.00
		142	17.50	16.00	17.50	16.00
		151	16.25	14.75	16.25	14.75
		159	16.25	14.75	16.25	14.75
	80 MHz Bandwidth	42	[redacted]		10.00	8.50
		58			10.50	9.00
		106			10.50	9.00
		122			13.50	12.00
		138			17.50	16.00
		155			14.00	12.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

Mode/ Band			IEEE 802.11a (5 GHz)		IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - 5GHz Antenna B	20 MHz Bandwidth	36	16.00	14.50	16.00	14.50	16.00	14.50
		40	16.25	14.75	16.25	14.75	16.25	14.75
		44	16.25	14.75	16.25	14.75	16.25	14.75
		48	16.25	14.75	16.25	14.75	16.25	14.75
		52	16.75	15.25	16.75	15.25	16.75	15.25
		56	16.75	15.25	16.75	15.25	16.75	15.25
		60	16.75	15.25	16.75	15.25	16.75	15.25
		64	16.00	14.50	16.00	14.50	16.00	14.50
		100	14.50	13.00	14.50	13.00	14.50	13.00
		104	17.25	15.75	17.25	15.75	17.25	15.75
		108	17.25	15.75	17.25	15.75	17.25	15.75
		112	17.25	15.75	17.25	15.75	17.25	15.75
		116	17.25	15.75	17.25	15.75	17.25	15.75
		120	17.25	15.75	17.25	15.75	17.25	15.75
		124	17.25	15.75	17.25	15.75	17.25	15.75
		128	17.25	15.75	17.25	15.75	17.25	15.75
		132	17.25	15.75	17.25	15.75	17.25	15.75
		136	17.25	15.75	17.25	15.75	17.25	15.75
		140	13.00	11.50	13.00	11.50	13.00	11.50
		144	17.25	15.75	17.25	15.75	17.25	15.75
		149	16.50	15.00	16.50	15.00	16.50	15.00
		153	16.50	15.00	16.50	15.00	16.50	15.00
		157	16.50	15.00	16.50	15.00	16.50	15.00
		161	16.50	15.00	16.50	15.00	16.50	15.00
		165	16.50	15.00	16.50	15.00	16.50	15.00
	40 MHz Bandwidth	38			13.00	11.50	13.00	11.50
		46			16.25	14.75	16.25	14.75
		54			16.75	15.25	16.75	15.25
		62			14.50	13.00	14.50	13.00
		102			12.50	11.00	12.50	11.00
		110			17.25	15.75	17.25	15.75
		118			17.25	15.75	17.25	15.75
		126			17.25	15.75	17.25	15.75
		134			14.00	12.50	14.00	12.50
		142			17.25	15.75	17.25	15.75
		151			16.50	15.00	16.50	15.00
		159			16.50	15.00	16.50	15.00
	80 MHz Bandwidth	42					11.50	10.00
		58					12.00	10.50
		106					12.00	10.50
		122					15.00	13.50
		138					17.25	15.75
		155					15.00	13.50

Mode/ Band			IEEE 802.11a (5 GHz)		IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) CDD - 5GHz Antenna B	20 MHz Bandwidth	36	15.00	13.50	15.00	13.50	15.00	13.50
		40	16.25	14.75	16.25	14.75	16.25	14.75
		44	16.25	14.75	16.25	14.75	16.25	14.75
		48	16.25	14.75	16.25	14.75	16.25	14.75
		52	16.50	15.00	16.50	15.00	16.50	15.00
		56	16.50	15.00	16.50	15.00	16.50	15.00
		60	16.50	15.00	16.50	15.00	16.50	15.00
		64	14.50	13.00	14.50	13.00	14.50	13.00
		100	14.00	12.50	14.00	12.50	14.00	12.50
		104	15.50	14.00	15.50	14.00	15.50	14.00
		108	15.50	14.00	15.50	14.00	15.50	14.00
		112	15.50	14.00	15.50	14.00	15.50	14.00
		116	15.50	14.00	15.50	14.00	15.50	14.00
		120	15.50	14.00	15.50	14.00	15.50	14.00
		124	15.50	14.00	15.50	14.00	15.50	14.00
		128	15.50	14.00	15.50	14.00	15.50	14.00
		132	15.50	14.00	15.50	14.00	15.50	14.00
		136	15.50	14.00	15.50	14.00	15.50	14.00
		140	12.00	10.50	12.00	10.50	12.00	10.50
		144	15.50	14.00	15.50	14.00	15.50	14.00
		149	16.50	15.00	16.50	15.00	16.50	15.00
		153	16.50	15.00	16.50	15.00	16.50	15.00
		157	16.50	15.00	16.50	15.00	16.50	15.00
		161	16.50	15.00	16.50	15.00	16.50	15.00
		165	16.50	15.00	16.50	15.00	16.50	15.00
	40 MHz Bandwidth	38			11.50	10.00	11.50	10.00
		46			16.25	14.75	16.25	14.75
		54			16.00	14.50	16.00	14.50
		62			11.50	10.00	11.50	10.00
		102			11.50	10.00	11.50	10.00
		110			17.00	15.50	17.00	15.50
		118			17.25	15.75	17.25	15.75
		126			17.00	15.50	17.00	15.50
		134			12.50	11.00	12.50	11.00
		142			17.25	15.75	17.25	15.75
		151			16.50	15.00	16.50	15.00
		159			16.50	15.00	16.50	15.00
	80 MHz Bandwidth	42					10.00	8.50
		58					10.50	9.00
		106					10.50	9.00
		122					13.50	12.00
		138					17.25	15.75
		155					14.00	12.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

Mode/ Band		Channel	IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
			Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) SDM - 5GHz Antenna B	20 MHz Bandwidth	36	15.00	13.50	15.00	13.50
		40	16.25	14.75	16.25	14.75
		44	16.25	14.75	16.25	14.75
		48	16.25	14.75	16.25	14.75
		52	16.75	15.25	16.75	15.25
		56	16.75	15.25	16.75	15.25
		60	16.75	15.25	16.75	15.25
		64	14.50	13.00	14.50	13.00
		100	14.00	12.50	14.00	12.50
		104	17.25	15.75	17.25	15.75
		108	17.25	15.75	17.25	15.75
		112	17.25	15.75	17.25	15.75
		116	17.25	15.75	17.25	15.75
		120	17.25	15.75	17.25	15.75
		124	17.25	15.75	17.25	15.75
		128	17.25	15.75	17.25	15.75
		132	17.25	15.75	17.25	15.75
		136	17.25	15.75	17.25	15.75
		140	12.00	10.50	12.00	10.50
		144	17.25	15.75	17.25	15.75
		149	16.50	15.00	16.50	15.00
		153	16.50	15.00	16.50	15.00
		157	16.50	15.00	16.50	15.00
		161	16.50	15.00	16.50	15.00
		165	16.50	15.00	16.50	15.00
	40 MHz Bandwidth	38	11.50	10.00	11.50	10.00
		46	16.25	14.75	16.25	14.75
		54	16.00	14.50	16.00	14.50
		62	11.50	10.00	11.50	10.00
		102	11.50	10.00	11.50	10.00
		110	17.00	15.50	17.00	15.50
		118	17.25	15.75	17.25	15.75
		126	17.00	15.50	17.00	15.50
		134	12.50	11.00	12.50	11.00
		142	17.25	15.75	17.25	15.75
		151	16.50	15.00	16.50	15.00
		159	16.50	15.00	16.50	15.00
	80 MHz Bandwidth	42			10.00	8.50
		58			10.50	9.00
		106			10.50	9.00
		122			13.50	12.00
		138			17.25	15.75
		155			14.00	12.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

1.3.3 Unlicensed Reduced Output Power

Mode / Band		Modulated Average - Single Tx Chain - Antenna A (dBm)
Bluetooth BDR/LE Reduced	Maximum	**10.00**
	Nominal	**8.50**
Bluetooth EDR Reduced	Maximum	**10.00**
	Nominal	**8.50**

Note: Bluetooth operations on Antenna A are reduced in output power when it is operating simultaneously with 5 GHz WLAN. Detailed description of the power reduction mechanism is included in the operation description.

1.4 DUT Antenna Locations

The overall dimensions of this device are > 200 mm. A diagram showing the location of the device antennas can be found in Appendix E. Exact antenna dimensions and separation distances are shown in the Technical description in the FCC filings.

Table 1-1
Device Edges/Sides for SAR Testing

Device Sides/Edges for SAR Testing						
Mode	Back	Front	Top	Bottom	Right	Left
UMTS 850 Antenna C	Yes	No	Yes	No	Yes	No
UMTS 1750 Antenna C	Yes	No	Yes	No	Yes	No
UMTS 1900 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 71 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 12 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 13 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 14 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 26 (Cell) Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 5 (Cell) Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 66 (AWS) Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 25 (PCS) Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 30 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 7 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 41 Antenna C	Yes	No	Yes	No	Yes	No
UMTS 850 Antenna D	Yes	No	Yes	No	No	Yes
UMTS 1750 Antenna D	Yes	No	Yes	No	No	Yes
UMTS 1900 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 71 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 12 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 13 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 14 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 26 (Cell) Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 5 (Cell) Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 66 (AWS) Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 25 (PCS) Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 30 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 7 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 41 Antenna D	Yes	No	Yes	No	No	Yes
2.4 GHz WLAN Antenna A	Yes	No	No	Yes	No	Yes
2.4 GHz WLAN Antenna B	Yes	No	No	Yes	Yes	No
5 GHz WLAN Antenna A	Yes	No	No	Yes	No	Yes
5 GHz WLAN Antenna B	Yes	No	No	Yes	Yes	No
Bluetooth Antenna A	Yes	No	No	Yes	No	Yes

Note: Per FCC KDB Publications 616217 D04v01r01, particular edges were not required to be evaluated for SAR based on the SAR exclusion threshold in KDB 447498 D01V06. Additional edges may have been evaluated for simultaneous transmission analysis.

1.5 Simultaneous Transmission Capabilities

According to FCC KDB Publication 447498 D01v06, transmitters are considered to be operating simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 4.3.2 procedures.

Table 1-2
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Body
1	Cellular Band + 2.4 GHz WI-FI	Yes
2	Cellular Band + 5 GHz WI-FI	Yes
3	Cellular Band + 2.4 GHz Bluetooth	Yes
4	Cellular Band + 2.4 GHz WI-FI MIMO	Yes
5	Cellular Band + 5 GHz WI-FI MIMO	Yes
6	Cellular Band + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes
7	Cellular Band + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes
8	2.4 GHz Bluetooth + 5 GHz WI-FI	Yes
9	2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes

1. There are no limitations in the above listed simultaneous transmission scenarios between cellular antennas and BT/WI-FI antennas.
2. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously on any antenna (Antenna A, Antenna B).
3. 2.4 GHz WLAN and 5 GHz WLAN cannot transmit simultaneously.
4. All licensed modes share the same antenna path and cannot transmit simultaneously.
5. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac. 802.11a/g/n/ac supports CDD and STBC and 802.11n/ac additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
6. This device supports VOWIFI.

1.6 Miscellaneous SAR Test Considerations

(A) WIFI/BT

Since U-NII-2A band have a higher or the same maximum output power than U-NII-1 for both Antenna A and Antenna B, U-NII-2A was evaluated for both Antenna A and Antenna B SAR. Additional testing for U-NII-1 Antenna A and Antenna B was not required since all reported SAR for U-NII-2A was less than 1.2 W/kg per FCC KDB Publication 248227 D01v02r02.

The WLAN chipset in this device is produced by two different suppliers. The electrically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions. Two device variants are referenced as Variant 1 and Variant 2 in this report. WLAN/Bluetooth SAR worst case configuration was evaluated for Variant 1 and Variant 2.

This device supports Channel 1-13 for 2.4 GHz WLAN. However, because channel 12/13 targets are not higher than that of channels 1-11, channels 1,6 and 11 were considered for SAR testing per FCC KDB 248227 D01V02r02.

This device supports IEEE 802.11ac with the following features:

a) Up to 80 MHz Bandwidth only
b) No aggregate channel configurations
c) 2 Tx antenna output
d) 256 QAM is supported
e) TDWR and Band gap channels are supported

(B) Licensed Transmitter(s)

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

LTE SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r04.This device supports LTE Carrier Aggregation (CA) in the downlink. ULCA is only supported in Power Class 3. Per FCC KDB Publication 941225 D05A v01r02, SAR for LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive. The downlink carrier aggregation exclusion analysis can be found in Appendix F. This device supports LTE Carrier Aggregation (CA) for LTE Band 7 and LTE Band 41 with two components carriers in the uplink. SAR measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

This device supports LTE capabilities with overlapping transmission frequency ranges. When the supported frequency range of an LTE Band falls completely within an LTE band with a larger transmission frequency range, both LTE bands have the same target power (or the band with the larger transmission frequency range has a higher target power), and both LTE bands share the same transmission path and signal characteristics, SAR was only assessed for the band with the larger transmission frequency range.

This device supports 64QAM on the uplink and 256QAM on the downlink for LTE Operations. Conducted powers for 64QAM uplink configurations were measured per Section 5.1 of FCC KDB Publication 941225 D05v02r05. SAR was not required for 64QAM since the highest maximum output power for 64QAM is ≤ ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg, per Section 5.2.4 of FCC KDB Publication 941225 D05v02r05.

This device supports both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per May 2017 TCB Workshop Notes, SAR tests were performed with Power Class 3 (given the specific UL/DL limitations for Power Class 2). Additionally, SAR testing for the power class condition was evaluated for the highest configuration in Power Class 3 for each test configuration to confirm the results were scalable linearly (See Section 13.1).

1.7 Guidance Applied

- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02, D06v02r01 (3G/4G)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 616217 D04v01r02 (Tablet)
- May 2017 TCB Workshop Notes (LTE Band 41 Power Class 2/3)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)

1.8 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 10.

2 LTE INFORMATION

LTE Information					
Form Factor	Tablet Device				
Frequency Range of each LTE transmission band	LTE Band 71 (665.5 - 695.5 MHz)				
	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 17 (706.5 - 713.5 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 14 (790.5 - 795.5 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 17: 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 14: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 71: 5 MHz	665.5 (133147)		680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)		680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 17: 5 MHz	706.5 (23755)		710 (23790)	713.5 (23825)	
LTE Band 17: 10 MHz	709 (23780)		710 (23790)	711 (23800)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 14: 5 MHz	790.5 (23305)		793 (23330)	795.5 (23355)	
LTE Band 14: 10 MHz	N/A		793 (23330)	N/A	
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26 (Cell): 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26 (Cell): 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26 (Cell): 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5 (Cell): 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5 (Cell): 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5 (Cell): 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)		1745 (132322)	1779.3 (132665)	
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66 (AWS): 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66 (AWS): 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19957)		1732.5 (20175)	1754.3 (20393)	
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4 (AWS): 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4 (AWS): 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25 (PCS): 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25 (PCS): 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2 (PCS): 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2 (PCS): 20 MHz	1860 (18700)		1880 (18900)	1900 (19100)	
LTE Band 30: 5 MHz	2307.5 (27685)		2310 (27710)	2312.5 (27735)	
LTE Band 30: 10 MHz	N/A		2310 (27710)	N/A	
LTE Band 7: 5 MHz	2502.5 (20775)		2535 (21100)	2567.5 (21425)	
LTE Band 7: 10 MHz	2505 (20800)		2535 (21100)	2565 (21400)	
LTE Band 7: 15 MHz	2507.5 (20825)		2535 (21100)	2562.5 (21375)	
LTE Band 7: 20 MHz	2510 (20850)		2535 (21100)	2560 (21350)	
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
UE Category	DL UE Cat 16 (QPSK, 16QAM, 64QAM, 256QAM), UL UE Cat 13 (QPSK, 16QAM, 64QAM)				
Modulations Supported in UL	QPSK, 16QAM, 64QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 13. It supports carrier aggregation features as shown in section 8 and Appendix F. All other uplink communications are identical to the Release 8 specifications. Uplink communications are done on the PCC unless otherwise specified. The following LTE Release 13 features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Cross-Carrier scheduling, Enhanced SCFDMA.				

3 INTRODUCTION

The FCC and Innovation, Science, and Economic Development Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

3.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 3-1).

Equation 3-1
SAR Mathematical Equation

$$SAR = \frac{d}{dt}\left(\frac{dU}{dm}\right) = \frac{d}{dt}\left(\frac{dU}{\rho dv}\right)$$

SAR is expressed in units of Watts per Kilogram (W/kg).

$$SAR = \frac{\sigma \cdot E^2}{\rho}$$

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013:

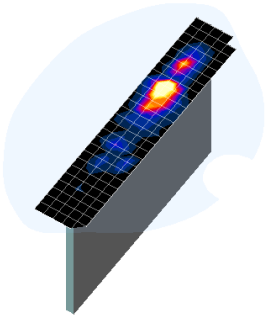

Figure 4-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

   a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 4-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

Table 4-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
			$\Delta z_{zoom}(n)$	$\Delta z_{zoom}(1)$*	$\Delta z_{zoom}(n>1)$*	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

5 TEST CONFIGURATION POSITIONS

5.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02.

5.2 SAR Testing for Tablet per KDB Publication 616217 D04v01r02

Per FCC KDB Publication 616217 D04v01r02, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR Exclusion Threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

6 RF EXPOSURE LIMITS

6.1 Uncontrolled Environment

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

6.2 Controlled Environment

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Table 6-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
Peak Spatial Average SAR Head	1.6	8.0
Whole Body SAR	0.08	0.4
Peak Spatial Average SAR Hands, Feet, Ankle, Wrists, etc.	4.0	20

1. The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2. The Spatial Average value of the SAR averaged over the whole body.
3. The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

7 FCC MEASUREMENT PROCEDURES

Power measurements for licensed transmitters are performed using a base station simulator under digital average power.

7.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

7.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is ≤ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

7.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”

The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

7.4 SAR Measurement Conditions for UMTS

7.4.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

7.4.2 Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all “1s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple $DPDCH_n$ configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or $DPDCH_n$, for the highest reported SAR configuration in 12.2 kbps RMC.

7.4.3 SAR Measurements with Rel 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

7.4.4 SAR Measurements with Rel 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

7.4.5 SAR Measurement Conditions for DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

7.5 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r04 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

7.5.1 Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

7.5.2 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

7.5.3 A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

7.5.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

a. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
    i. The required channel and offset combination with the highest maximum output power is required for SAR.
    ii. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
    iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.
b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to ½ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is <1.45 W/kg.

7.5.5 TDD

LTE TDD testing is performed using the SAR test guidance provided in FCC KDB 941225 D05v02r04. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05v02r04. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211 Section 4.

7.5.6 Downlink Only Carrier Aggregation

Conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. Additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted

power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for downlink only carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

7.6 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

7.6.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

7.6.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg. When different maximum output powers are specified for the bands, SAR measurement for the U-NII band with the lower maximum output power is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is > 1.2 W/kg.

7.6.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification. Unless band gap channels are permanently disabled, SAR must be considered for these channels. Each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

7.6.4 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.

7.6.5 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

7.6.6 Initial Test Configuration Procedure

For OFDM, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order IEEE 802.11 mode. The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements (See Section 7.6.5).

7.6.7 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required.

7.6.8 MIMO SAR considerations

Per KDB Publication 248227 D01v02r02, the simultaneous SAR provisions in KDB Publication 447498 D01v06 should be applied to determine simultaneous transmission SAR test exclusion for WIFI MIMO. If the sum of 1g single transmission chain SAR measurements is <1.6 W/kg, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation.

8 RF CONDUCTED POWERS

8.1 UMTS Conducted Powers

Table 8-1
Conducted Power Antenna C

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	17.37	17.29	17.22	12.99	12.91	12.82	12.70	12.66	12.65	-
6	HSDPA	Subtest 1	17.42	17.31	17.27	12.92	12.90	12.88	12.78	12.83	12.75	0
6		Subtest 2	17.45	17.32	17.26	12.95	12.91	12.89	12.76	12.79	12.71	0
6		Subtest 3	17.50	17.37	17.30	12.93	12.90	12.83	12.73	12.75	12.68	0
6		Subtest 4	17.48	17.35	17.28	12.90	12.91	12.88	12.78	12.80	12.73	0
6	HSUPA	Subtest 1	17.42	17.32	17.26	12.86	12.81	12.78	12.80	12.84	12.71	0
6		Subtest 2	17.53	17.44	17.31	12.85	12.81	12.79	12.70	12.63	12.64	0
6		Subtest 3	17.46	17.38	17.21	12.88	12.82	12.78	12.78	12.70	12.63	0
6		Subtest 4	17.47	17.39	17.29	12.89	12.85	12.80	12.66	12.69	12.66	0
6		Subtest 5	17.44	17.34	17.32	12.91	12.84	12.83	12.68	12.66	12.65	0
8	DC-HSDPA	Subtest 1	17.40	17.33	17.33	12.86	12.85	12.75	12.74	12.71	12.67	0
8		Subtest 2	17.43	17.33	17.26	12.87	12.83	12.72	12.71	12.73	12.67	0
8		Subtest 3	17.45	17.33	17.28	12.84	12.81	12.73	12.69	12.71	12.67	0
8		Subtest 4	17.43	17.32	17.26	12.87	12.82	12.72	12.75	12.73	12.67	0

Table 8-2
Conducted Power Antenna D

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	19.14	19.02	18.99	13.02	12.94	12.80	11.92	11.81	11.83	-
6	HSDPA	Subtest 1	19.02	19.05	18.89	13.09	13.05	12.91	11.93	11.91	11.93	0
6		Subtest 2	19.13	18.97	18.90	13.06	13.01	12.95	11.96	11.83	11.94	0
6		Subtest 3	19.14	18.97	18.85	12.95	13.00	12.89	11.97	11.92	11.93	0
6		Subtest 4	19.17	18.97	18.84	13.03	12.81	12.92	11.98	11.88	11.89	0
6	HSUPA	Subtest 1	19.16	19.02	18.85	13.00	12.99	12.95	11.90	11.88	11.83	0
6		Subtest 2	19.20	19.05	18.88	12.99	13.02	12.89	11.88	11.82	11.94	0
6		Subtest 3	19.15	18.96	18.85	13.07	13.08	12.94	11.97	11.89	11.90	0
6		Subtest 4	19.18	19.03	18.87	12.98	13.00	12.86	11.88	11.82	11.77	0
6		Subtest 5	19.15	18.99	18.89	13.03	13.02	12.86	11.95	11.92	11.87	0
8	DC-HSDPA	Subtest 1	18.80	18.68	18.58	12.99	12.98	12.79	12.00	11.80	11.91	0
8		Subtest 2	18.81	18.70	18.54	12.97	12.94	12.88	11.77	11.84	11.78	0
8		Subtest 3	18.89	18.72	18.56	12.98	12.91	12.86	11.76	11.82	11.76	0
8		Subtest 4	18.83	18.70	18.56	12.97	12.94	12.87	11.74	11.79	11.74	0

DC-HSDPA considerations

- 3GPP Specification 34.121-1 Release 8 Ver 8.10.0 was used for DC-HSDPA guidance
- H-Set 12 (QPSK) was confirmed to be used during DC-HSDPA measurements
- The DUT supports UE category 24 for HSDPA

Figure 8-1
Power Measurement Setup

8.3 LTE Conducted Powers

Per FCC KDB Publication 941225 D05v02r05, LTE SAR for the lower bandwidths was not required for testing since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg. Lower bandwidth conducted powers for all LTE bands can be found in appendix H.

8.3.1 LTE Band 71

Table 8-3
LTE Band 71 Conducted Power Antenna C - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.65	0	0
	1	50	17.59		0
	1	99	**17.67**		0
	50	0	17.62	0-1	0
	50	25	17.62		0
	50	50	**17.66**		0
	100	0	17.65		0
16QAM	1	0	17.72	0-1	0
	1	50	17.70		0
	1	99	17.70		0
	50	0	17.41	0-2	0
	50	25	17.39		0
	50	50	17.37		0
	100	0	17.40		0
64QAM	1	0	17.65	0-2	0
	1	50	17.58		0
	1	99	17.56		0
	50	0	17.34	0-3	0
	50	25	17.36		0
	50	50	17.35		0
	100	0	17.42		0

Note: LTE Band 71 at 20 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 8-4
LTE Band 71 Conducted Power Antenna D - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**16.78**	0	0
	1	50	16.68		0
	1	99	16.71		0
	50	0	16.69	0-1	0
	50	25	**16.71**		0
	50	50	16.70		0
	100	0	16.69		0
16QAM	1	0	16.75	0-1	0
	1	50	16.69		0
	1	99	16.72		0
	50	0	16.74	0-2	0
	50	25	16.70		0
	50	50	16.67		0
	100	0	16.66		0
64QAM	1	0	16.88	0-2	0
	1	50	16.78		0
	1	99	16.72		0
	50	0	16.64	0-3	0
	50	25	16.66		0
	50	50	16.67		0
	100	0	16.74		0

Note: LTE Band 71 at 20 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

8.3.2 LTE Band 12

Table 8-5
LTE Band 12 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.12	0	0
	1	25	17.15		0
	1	49	**17.21**		0
	25	0	17.05	0-1	0
	25	12	17.09		0
	25	25	**17.12**		0
	50	0	17.11		0
16QAM	1	0	17.11	0-1	0
	1	25	17.14		0
	1	49	17.17		0
	25	0	16.93	0-2	0
	25	12	16.91		0
	25	25	17.06		0
	50	0	16.95		0
64QAM	1	0	17.10	0-2	0
	1	25	17.12		0
	1	49	17.17		0
	25	0	16.95	0-3	0
	25	12	16.93		0
	25	25	17.02		0
	50	0	16.98		0

Note: LTE Band 12 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 8-6
LTE Band 12 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**16.73**	0	0
	1	25	16.72		0
	1	49	16.72		0
	25	0	16.67	0-1	0
	25	12	16.68		0
	25	25	**16.70**		0
	50	0	16.69		0
16QAM	1	0	16.76	0-1	0
	1	25	16.81		0
	1	49	16.78		0
	25	0	16.80	0-2	0
	25	12	16.77		0
	25	25	16.75		0
	50	0	16.76		0
64QAM	1	0	16.73	0-2	0
	1	25	16.82		0
	1	49	16.86		0
	25	0	16.69	0-3	0
	25	12	16.72		0
	25	25	16.70		0
	50	0	16.73		0

Note: LTE Band 12 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

8.3.3 LTE Band 13

Table 8-7
LTE Band 13 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**17.72**	0	0
	1	25	17.32		0
	1	49	17.26		0
	25	0	**17.53**	0-1	0
	25	12	17.42		0
	25	25	17.36		0
	50	0	17.48		0
16QAM	1	0	17.98	0-1	0
	1	25	17.44		0
	1	49	17.36		0
	25	0	17.28	0-2	0
	25	12	17.22		0
	25	25	17.12		0
	50	0	17.20		0
64QAM	1	0	17.85	0-2	0
	1	25	17.42		0
	1	49	17.39		0
	25	0	17.37	0-3	0
	25	12	17.26		0
	25	25	17.18		0
	50	0	17.28		0

Table 8-8
LTE Band 13 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**18.21**	0	0
	1	25	17.80		0
	1	49	17.74		0
	25	0	**17.90**	0-1	0
	25	12	17.79		0
	25	25	17.73		0
	50	0	17.81		0
16QAM	1	0	18.20	0-1	0
	1	25	17.76		0
	1	49	17.75		0
	25	0	17.67	0-2	0
	25	12	17.54		0
	25	25	17.49		0
	50	0	17.52		0
64QAM	1	0	18.20	0-2	0
	1	25	17.74		0
	1	49	17.72		0
	25	0	17.64	0-3	0
	25	12	17.56		0
	25	25	17.55		0
	50	0	17.52		0

8.3.4 LTE Band 14

Table 8-9
LTE Band 14 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**17.64**	0	0
	1	25	17.58		0
	1	49	17.61		0
	25	0	**17.72**	0-1	0
	25	12	17.68		0
	25	25	17.63		0
	50	0	17.63		0
16QAM	1	0	17.80	0-1	0
	1	25	17.78		0
	1	49	17.76		0
	25	0	17.49	0-2	0
	25	12	17.47		0
	25	25	17.40		0
	50	0	17.39		0
64QAM	1	0	17.75	0-2	0
	1	25	17.69		0
	1	49	17.63		0
	25	0	17.51	0-3	0
	25	12	17.48		0
	25	25	17.40		0
	50	0	17.41		0

Table 8-10
LTE Band 14 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**17.91**	0	0
	1	25	17.89		0
	1	49	17.85		0
	25	0	**17.90**	0-1	0
	25	12	17.88		0
	25	25	17.85		0
	50	0	17.89		0
16QAM	1	0	18.00	0-1	0
	1	25	17.96		0
	1	49	17.92		0
	25	0	17.68	0-2	0
	25	12	17.62		0
	25	25	17.61		0
	50	0	17.63		0
64QAM	1	0	17.90	0-2	0
	1	25	17.74		0
	1	49	17.81		0
	25	0	17.63	0-3	0
	25	12	17.57		0
	25	25	17.56		0
	50	0	17.56		0

8.3.5 LTE Band 26

Table 8-11
LTE Band 26 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26740 (819.0 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 26990 (844.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**18.05**	18.02	17.86	0	0
	1	25	17.86	17.81	17.81		0
	1	49	18.02	17.77	17.69		0
	25	0	17.75	17.76	**17.84**	0-1	0
	25	12	17.76	17.70	17.79		0
	25	25	17.78	17.65	17.70		0
	50	0	17.78	17.69	17.77		0
16QAM	1	0	18.00	18.04	17.86	0-1	0
	1	25	17.95	17.85	18.02		0
	1	49	17.96	17.95	17.90		0
	25	0	17.55	17.53	17.71	0-2	0
	25	12	17.52	17.50	17.60		0
	25	25	17.63	17.50	17.52		0
	50	0	17.64	17.53	17.58		0
64QAM	1	0	18.04	17.96	17.92	0-2	0
	1	25	18.02	17.75	17.83		0
	1	49	18.01	17.85	17.67		0
	25	0	17.56	17.61	17.70	0-3	0
	25	12	17.53	17.55	17.64		0
	25	25	17.66	17.50	17.54		0
	50	0	17.63	17.55	17.60		0

Table 8-12
LTE Band 26 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26740 (819.0 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 26990 (844.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**17.79**	17.70	17.60	0	0
	1	25	17.60	17.50	17.69		0
	1	49	17.68	17.53	17.52		0
	25	0	17.65	17.66	**17.72**	0-1	0
	25	12	17.62	17.55	17.70		0
	25	25	17.70	17.49	17.55		0
	50	0	17.71	17.54	17.68		0
16QAM	1	0	17.85	17.62	17.74	0-1	0
	1	25	17.74	17.52	17.71		0
	1	49	17.80	17.51	17.77		0
	25	0	17.37	17.33	17.43	0-2	0
	25	12	17.35	17.28	17.36		0
	25	25	17.39	17.26	17.28		0
	50	0	17.35	17.29	17.35		0
64QAM	1	0	17.84	17.54	17.58	0-2	0
	1	25	17.66	17.46	17.56		0
	1	49	17.82	17.48	17.53		0
	25	0	17.36	17.38	17.41	0-3	0
	25	12	17.33	17.30	17.36		0
	25	25	17.37	17.26	17.30		0
	50	0	17.35	17.32	17.34		0

8.3.6 LTE Band 5

Table 8-13
LTE Band 5 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.28	0	0
	1	25	17.24		0
	1	49	**17.46**		0
	25	0	17.20	0-1	0
	25	12	17.15		0
	25	25	**17.27**		0
	50	0	17.17		0
16QAM	1	0	17.14	0-1	0
	1	25	17.13		0
	1	49	17.28		0
	25	0	17.00	0-2	0
	25	12	17.01		0
	25	25	17.11		0
	50	0	17.00		0
64QAM	1	0	17.22	0-2	0
	1	25	17.19		0
	1	49	17.42		0
	25	0	17.04	0-3	0
	25	12	17.00		0
	25	25	17.17		0
	50	0	17.01		0

Note: LTE Band 5 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 8-14
LTE Band 5 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	18.50	0	0
	1	25	18.49		0
	1	49	**18.66**		0
	25	0	18.53	0-1	0
	25	12	18.54		0
	25	25	**18.62**		0
	50	0	18.57		0
16QAM	1	0	18.75	0-1	0
	1	25	18.72		0
	1	49	18.76		0
	25	0	18.61	0-2	0
	25	12	18.60		0
	25	25	18.66		0
	50	0	18.61		0
64QAM	1	0	18.56	0-2	0
	1	25	18.52		0
	1	49	18.84		0
	25	0	18.35	0-3	0
	25	12	18.40		0
	25	25	18.45		0
	50	0	18.37		0

Note: LTE Band 5 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

8.3.7 LTE Band 66

Table 8-15
LTE Band 66 Conducted Power Antenna C - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**13.05**	12.91	12.81	0	0
	1	50	12.85	12.92	12.80		0
	1	99	12.90	12.76	12.80		0
	50	0	**12.88**	12.85	12.80	0-1	0
	50	25	12.80	12.76	12.77		0
	50	50	12.82	12.70	12.73		0
	100	0	12.83	12.82	12.78		0
16QAM	1	0	13.01	12.89	12.97	0-1	0
	1	50	12.80	12.81	13.00		0
	1	99	12.83	12.63	12.98		0
	50	0	12.87	12.75	12.70	0-2	0
	50	25	12.75	12.65	12.63		0
	50	50	12.74	12.53	12.60		0
	100	0	12.78	12.69	12.66		0
64QAM	1	0	12.94	13.04	12.90	0-2	0
	1	50	12.90	13.05	12.96		0
	1	99	12.87	12.99	12.85		0
	50	0	12.82	12.70	12.63	0-3	0
	50	25	12.73	12.62	12.60		0
	50	50	12.75	12.50	12.54		0
	100	0	12.75	12.57	12.60		0

Table 8-16
LTE Band 66 Conducted Power Antenna D - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**13.17**	13.16	13.16	0	0
	1	50	13.05	13.15	13.14		0
	1	99	13.03	13.14	13.13		0
	50	0	**13.18**	13.05	13.17	0-1	0
	50	25	13.13	13.01	13.13		0
	50	50	13.12	12.99	13.09		0
	100	0	13.08	13.09	13.08		0
16QAM	1	0	12.88	13.00	12.80	0-1	0
	1	50	12.74	12.85	12.71		0
	1	99	12.77	12.88	12.73		0
	50	0	12.63	12.55	12.63	0-2	0
	50	25	12.65	12.50	12.59		0
	50	50	12.63	12.46	12.57		0
	100	0	12.68	12.53	12.58		0
64QAM	1	0	13.00	12.88	12.89	0-2	0
	1	50	13.03	12.86	12.83		0
	1	99	12.99	12.83	12.77		0
	50	0	12.63	12.55	12.62	0-3	0
	50	25	12.65	12.52	12.60		0
	50	50	12.64	12.53	12.55		0
	100	0	12.73	12.54	12.59		0

8.3.8 LTE Band 25

Table 8-17
LTE Band 25 Conducted Power Antenna C - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.25	**12.28**	12.13	0	0
	1	50	12.19	12.15	12.12		0
	1	99	12.27	12.10	12.15		0
	50	0	12.17	**12.18**	12.16	0-1	0
	50	25	12.10	12.11	12.11		0
	50	50	12.14	12.14	12.12		0
	100	0	12.13	12.17	12.16		0
16QAM	1	0	12.66	12.46	12.41	0-1	0
	1	50	12.53	12.25	12.40		0
	1	99	12.67	12.53	12.34		0
	50	0	12.26	12.19	12.22	0-2	0
	50	25	12.25	12.15	12.17		0
	50	50	12.23	12.24	12.15		0
	100	0	12.35	12.23	12.22		0
64QAM	1	0	12.45	12.46	12.43	0-2	0
	1	50	12.44	12.24	12.41		0
	1	99	12.42	12.47	12.42		0
	50	0	12.27	12.16	12.12	0-3	0
	50	25	12.22	12.11	12.11		0
	50	50	12.26	12.20	12.13		0
	100	0	12.33	12.25	12.13		0

Table 8-18
LTE Band 25 Conducted Power Antenna D - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	11.84	11.64	11.85	0	0
	1	50	11.68	11.62	**11.90**		0
	1	99	11.80	11.70	11.79		0
	50	0	11.69	11.66	11.77	0-1	0
	50	25	11.60	11.72	**11.78**		0
	50	50	11.70	11.76	11.72		0
	100	0	11.69	11.75	11.77		0
16QAM	1	0	11.95	11.83	11.99	0-1	0
	1	50	11.74	11.70	11.98		0
	1	99	11.91	11.78	11.99		0
	50	0	11.53	11.51	11.63	0-2	0
	50	25	11.46	11.49	11.62		0
	50	50	11.56	11.58	11.57		0
	100	0	11.57	11.61	11.57		0
64QAM	1	0	11.95	11.62	11.87	0-2	0
	1	50	11.76	11.58	11.84		0
	1	99	11.94	11.76	11.82		0
	50	0	11.52	11.45	11.62	0-3	0
	50	25	11.49	11.46	11.60		0
	50	50	11.59	11.58	11.57		0
	100	0	11.56	11.62	11.66		0

8.3.9 LTE Band 30

Table 8-19
LTE Band 30 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**12.71**	0	0
	1	25	12.64		0
	1	49	12.53		0
	25	0	**12.69**	0-1	0
	25	12	12.65		0
	25	25	12.60		0
	50	0	12.68		0
16QAM	1	0	12.86	0-1	0
	1	25	12.76		0
	1	49	12.61		0
	25	0	12.53	0-2	0
	25	12	12.47		0
	25	25	12.42		0
	50	0	12.48		0
64QAM	1	0	12.85	0-2	0
	1	25	12.75		0
	1	49	12.65		0
	25	0	12.51	0-3	0
	25	12	12.50		0
	25	25	12.45		0
	50	0	12.50		0

Table 8-20
LTE Band 30 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	12.60	0	0
	1	25	**12.64**		0
	1	49	12.58		0
	25	0	12.57	0-1	0
	25	12	**12.65**		0
	25	25	12.62		0
	50	0	12.63		0
16QAM	1	0	12.63	0-1	0
	1	25	12.68		0
	1	49	12.64		0
	25	0	12.31	0-2	0
	25	12	12.37		0
	25	25	12.38		0
	50	0	12.39		0
64QAM	1	0	12.66	0-2	0
	1	25	12.77		0
	1	49	12.68		0
	25	0	12.43	0-3	0
	25	12	12.46		0
	25	25	12.45		0
	50	0	12.55		0

8.3.10 LTE Band 7

Table 8-21
LTE Band 7 Conducted Power Antenna C - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**12.15**	12.07	11.81	0	0
	1	50	11.90	11.95	11.74		0
	1	99	12.08	11.99	11.91		0
	50	0	11.97	12.03	11.78	0-1	0
	50	25	11.90	11.94	11.80		0
	50	50	**12.04**	11.95	11.95		0
	100	0	11.97	12.01	11.82		0
16QAM	1	0	12.12	12.06	12.14	0-1	0
	1	50	11.97	12.01	12.16		0
	1	99	12.02	12.12	12.20		0
	50	0	11.90	11.87	11.80	0-2	0
	50	25	11.86	11.87	11.84		0
	50	50	11.92	11.90	11.78		0
	100	0	11.93	11.91	11.90		0
64QAM	1	0	12.14	12.20	11.98	0-2	0
	1	50	12.10	12.12	12.01		0
	1	99	12.18	12.16	12.10		0
	50	0	11.89	11.96	11.85	0-3	0
	50	25	11.87	11.92	11.87		0
	50	50	12.01	11.94	11.82		0
	100	0	11.97	11.98	11.94		0

Table 8-22
LTE Band 7 Conducted Power Antenna D - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	11.90	11.75	11.64	0	0
	1	50	11.78	11.71	11.70		0
	1	99	**11.97**	11.74	11.79		0
	50	0	11.79	11.75	11.67	0-1	0
	50	25	11.77	11.76	11.72		0
	50	50	**11.89**	11.80	11.72		0
	100	0	11.88	11.72	11.79		0
16QAM	1	0	12.14	12.28	12.04	0-1	0
	1	50	12.20	12.31	12.06		0
	1	99	12.35	12.25	12.35		0
	50	0	11.62	11.66	11.52	0-2	0
	50	25	11.65	11.56	11.56		0
	50	50	11.67	11.57	11.57		0
	100	0	11.71	11.64	11.61		0
64QAM	1	0	12.10	11.92	11.85	0-2	0
	1	50	12.16	11.88	11.92		0
	1	99	12.27	11.89	11.89		0
	50	0	11.80	11.85	11.76	0-3	0
	50	25	11.85	11.79	11.80		0
	50	50	11.85	11.77	11.70		0
	100	0	11.90	11.82	11.85		0

8.3.11 LTE Band 41

Table 8-23
LTE Band 41 Conducted Power Antenna C - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	13.93	13.89	13.89	13.80	13.74	0	0
	1	50	13.92	13.67	13.70	13.75	13.76		0
	1	99	**13.97**	13.66	13.60	13.70	13.88		0
	50	0	**13.90**	13.80	13.61	13.73	13.74	0-1	0
	50	25	13.85	13.58	13.76	13.73	13.75		0
	50	50	13.89	13.64	13.60	13.72	13.84		0
	100	0	13.89	13.63	13.58	13.75	13.80		0
16QAM	1	0	13.91	13.73	13.65	13.76	13.69	0-1	0
	1	50	13.87	13.78	13.72	13.73	13.75		0
	1	99	13.89	13.77	13.80	13.65	13.79		0
	50	0	13.88	13.63	13.62	13.67	13.62	0-2	0
	50	25	13.77	13.67	13.66	13.58	13.65		0
	50	50	13.82	13.62	13.61	13.67	13.67		0
	100	0	13.84	13.84	13.64	13.63	13.68		0
64QAM	1	0	13.99	13.98	13.92	13.85	13.84	0-2	0
	1	50	13.90	13.97	13.91	13.93	13.98		0
	1	99	13.90	13.99	13.94	13.81	14.16		0
	50	0	13.95	13.95	13.92	13.74	13.80	0-3	0
	50	25	13.99	13.99	13.90	13.77	13.89		0
	50	50	13.98	13.94	13.91	13.84	13.88		0
	100	0	13.99	13.99	13.93	13.81	13.87		0

Table 8-24
LTE Band 41 Conducted Power Antenna D - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	14.30	14.18	14.05	13.87	13.78	0	0
	1	50	**14.36**	14.20	14.07	13.82	13.77		0
	1	99	14.29	14.11	13.92	13.77	13.64		0
	50	0	14.18	14.14	14.09	13.89	13.77	0-1	0
	50	25	14.20	14.13	14.02	13.82	13.78		0
	50	50	**14.29**	14.10	14.01	13.83	13.76		0
	100	0	14.28	14.22	14.08	13.92	13.77		0
16QAM	1	0	14.09	13.98	14.05	14.01	13.90	0-1	0
	1	50	14.05	14.00	14.15	13.95	14.15		0
	1	99	14.00	14.13	14.32	14.00	14.12		0
	50	0	14.05	13.88	13.96	13.81	13.88	0-2	0
	50	25	14.05	13.81	13.95	13.78	13.88		0
	50	50	14.06	13.86	13.95	13.77	13.91		0
	100	0	14.08	13.80	13.96	13.76	13.90		0
64QAM	1	0	14.17	14.18	14.03	13.91	13.67	0-2	0
	1	50	14.06	14.08	13.96	13.86	13.65		0
	1	99	14.15	14.02	13.87	13.81	13.54		0
	50	0	13.98	14.04	13.93	13.84	13.64	0-3	0
	50	25	14.04	14.03	13.91	13.79	13.60		0
	50	50	14.10	13.97	13.86	13.78	13.57		0
	100	0	14.07	14.06	13.94	13.85	13.63		0

8.3.12 LTE Band 41 PC2

Table 8-25
LTE Band 41 PC2 Conducted Power Antenna C - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	14.06	13.95	13.80	13.97	13.68	0	0
	1	50	**14.11**	13.95	13.82	13.91	13.70		0
	1	99	14.07	13.81	13.79	13.79	13.65		0
	50	0	14.04	13.89	13.78	13.74	13.66	0-1	0
	50	25	14.06	13.94	13.80	13.76	13.67		0
	50	50	**14.21**	13.90	13.83	13.72	13.66		0
	100	0	14.09	13.90	13.83	13.75	13.69		0

Table 8-26
LTE Band 41 PC2 Conducted Power Antenna D - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	14.23	14.13	14.18	14.14	14.11	0	0
	1	50	14.21	14.08	14.19	14.10	14.09		0
	1	99	14.17	14.18	**14.31**	14.09	14.10		0
	50	0	14.23	14.13	14.19	14.12	14.11	0-1	0
	50	25	14.22	14.07	14.17	14.11	14.13		0
	50	50	**14.27**	14.10	14.22	14.15	14.16		0
	100	0	14.22	14.14	14.22	14.16	14.18		0

8.3.13 LTE Uplink Carrier Aggregation Conducted Powers

Table 8-27
LTE Uplink Carrier Aggregation Conducted Powers – Antenna C

	PCC									SCC									Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_7C	LTE B7	20	21100	2535.0	3100	2655.0	QPSK	1	0	LTE B7	20	20902	2515.2	2902	2635.2	QPSK	1	99	11.74	12.07

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C	LTE B41	20	40185	2549.5	QPSK	50	0	LTE B41	20	39987	2529.7	QPSK	50	50	13.82	13.80

Table 8-28
LTE Uplink Carrier Aggregation Conducted Powers – Antenna D

	PCC									SCC									Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_7C	LTE B7	20	21350	2560.0	3350	2680.0	QPSK	50	0	LTE B7	20	21152	2540.2	3152	2660.2	QPSK	50	50	11.64	11.67

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C	LTE B41	20	41490	2680.0	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	13.75	13.78

Notes:

1. This device supports uplink carrier aggregation for LTE CA_41C and LTE CA_7C with a maximum of two 20 MHz component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
3. Uplink carrier aggregation is only possible when the device is operating with Power Class 3 for LTE Band 41.

Figure 8-2
Power Measurement Setup

8.4 WLAN Conducted Powers

Table 8-29
2.4 GHz WLAN Maximum Average RF Power – Antenna A, Variant 1

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	14.87	14.15	14.00
2417	2	N/A	15.01	15.10
2437	6	15.10	15.20	14.97
2457	10	N/A	15.03	15.09
2462	11	14.80	13.20	12.96

Table 8-30
2.4 GHz WLAN Maximum Average RF Power – Antenna A, Variant 2

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	15.08	14.10	13.99
2417	2	N/A	14.97	14.93
2437	6	15.25	15.06	15.14
2457	10	N/A	15.00	15.07
2462	11	15.03	13.10	13.15

Table 8-31
2.4 GHz WLAN Maximum Average RF Power – Antenna B, Variant 1

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	15.03	14.11	14.20
2417	2	N/A	15.02	15.15
2437	6	15.04	15.07	15.04
2457	10	N/A	14.98	14.94
2462	11	15.11	13.09	12.97

Table 8-32
2.4 GHz WLAN Maximum Average RF Power – Antenna B, Variant 2

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	14.98	14.11	14.14
2417	2	N/A	15.09	14.98
2437	6	15.05	15.11	15.02
2457	10	N/A	15.09	15.15
2462	11	15.21	12.95	13.16

Table 8-33
5 GHz WLAN Maximum Average RF Power – Antenna A, Variant 1

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	12.04	12.16
5230	46	15.40	15.45
5270	54	16.00	16.15
5310	62	13.60	13.44
5755	151	15.18	15.22
5795	159	15.12	15.24

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	11.11
5610	122	14.47
5690	138	16.49

Table 8-34
5 GHz WLAN Maximum Average RF Power – Antenna A, Variant 2

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	12.03	11.96
5230	46	15.56	15.56
5270	54	16.20	16.08
5310	62	13.58	13.51
5755	151	15.28	15.30
5795	159	15.21	15.15

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	11.07
5610	122	14.63
5690	138	16.56

Table 8-35
5 GHz WLAN Maximum Average RF Power – Antenna B, Variant 1

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	11.92	12.21
5230	46	15.05	15.21
5270	54	15.81	15.68
5310	62	13.60	13.56
5755	151	15.58	15.66
5795	159	15.48	15.61

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	11.06
5610	122	14.56
5690	138	16.14

Table 8-36
5 GHz WLAN Maximum Average RF Power – Antenna B, Variant 2

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	12.08	12.01
5230	46	15.40	15.30
5270	54	15.97	15.67
5310	62	13.54	13.52
5755	151	15.66	15.61
5795	159	15.63	15.57

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	11.12
5610	122	14.53
5690	138	16.28

8.4.1 Notes for WLAN

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.
- The WLAN chipset in this device is produced by two different suppliers. The electronically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions.
- WLAN SAR worst case configuration was evaluated for Variant 1 and Variant 2.
- Full Power measurements were performed by Variant 1 and Variant 2 per FCC KDB Procedures 248227.

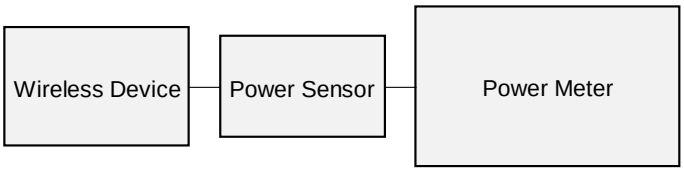

Figure 8-3
Power Measurement Setup

8.5 Bluetooth Conducted Powers

Table 8-37
Bluetooth Max Average RF Power – Antenna A, Variant 1

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
				[dBm]	[mW]
2402	GFSK	1.0	0	15.94	39.264
2441	GFSK	1.0	39	16.10	40.738
2480	GFSK	1.0	78	15.95	39.355

Table 8-38
Bluetooth Reduced Average RF Power – Antenna A, Variant 1

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
				[dBm]	[mW]
2402	GFSK	1.0	0	8.90	7.762
2441	GFSK	1.0	39	9.09	8.110
2480	GFSK	1.0	78	9.26	8.433

Table 8-39
Bluetooth Max Average RF Power – Antenna A, Variant 2

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
				[dBm]	[mW]
2402	GFSK	1.0	0	16.06	40.365
2441	GFSK	1.0	39	16.40	43.652
2480	GFSK	1.0	78	16.16	41.305

Table 8-40
Bluetooth Reduced Average RF Power – Antenna A, Variant 2

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
				[dBm]	[mW]
2402	GFSK	1.0	0	8.83	7.638
2441	GFSK	1.0	39	8.60	7.244
2480	GFSK	1.0	78	9.05	8.035

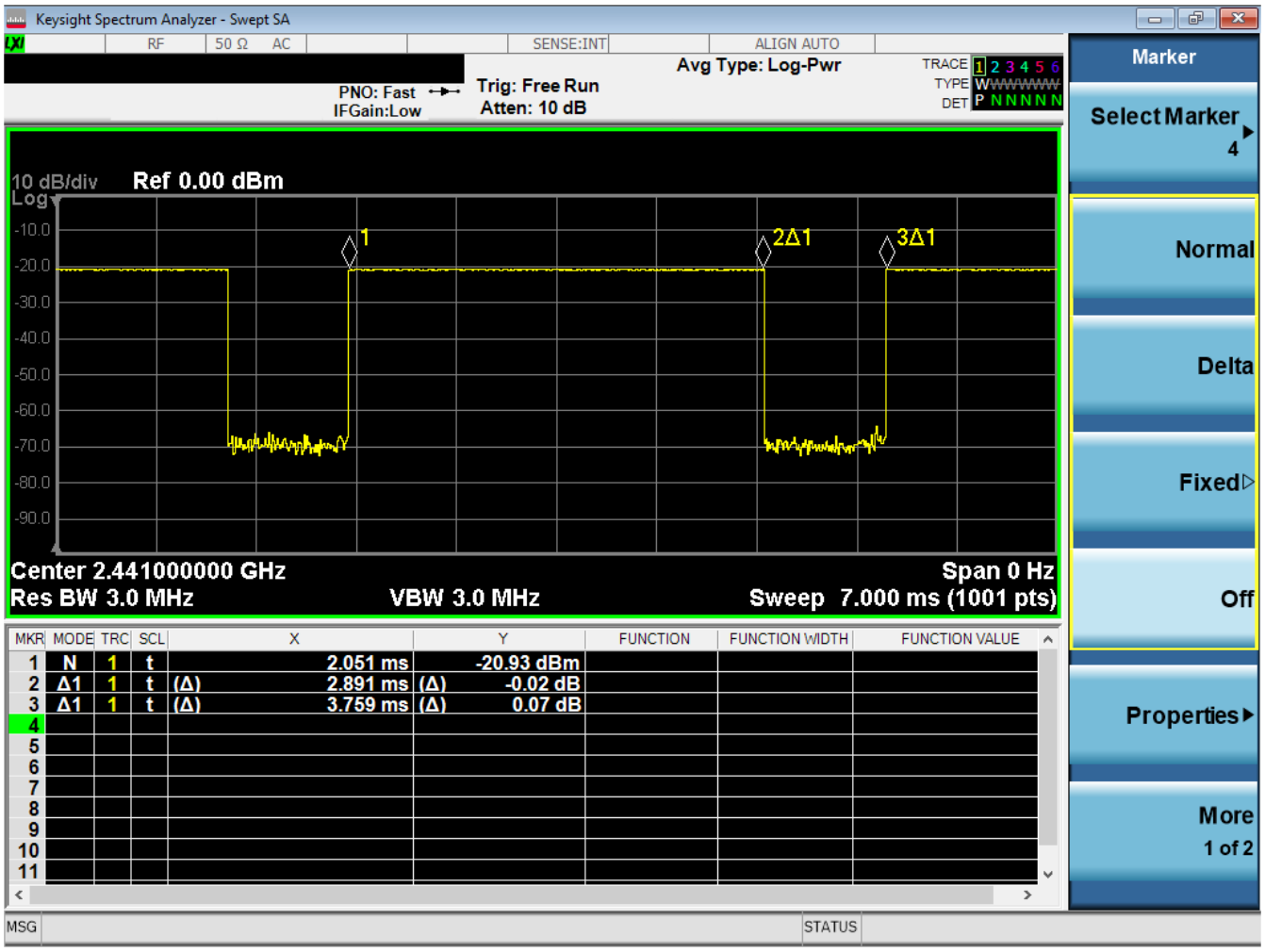

Figure 8-4
Bluetooth Transmission Plot – Antenna A, Variant 1

Equation 8-1
Bluetooth Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.891\ ms}{3.759\ ms} * 100\% = 76.9\%$$

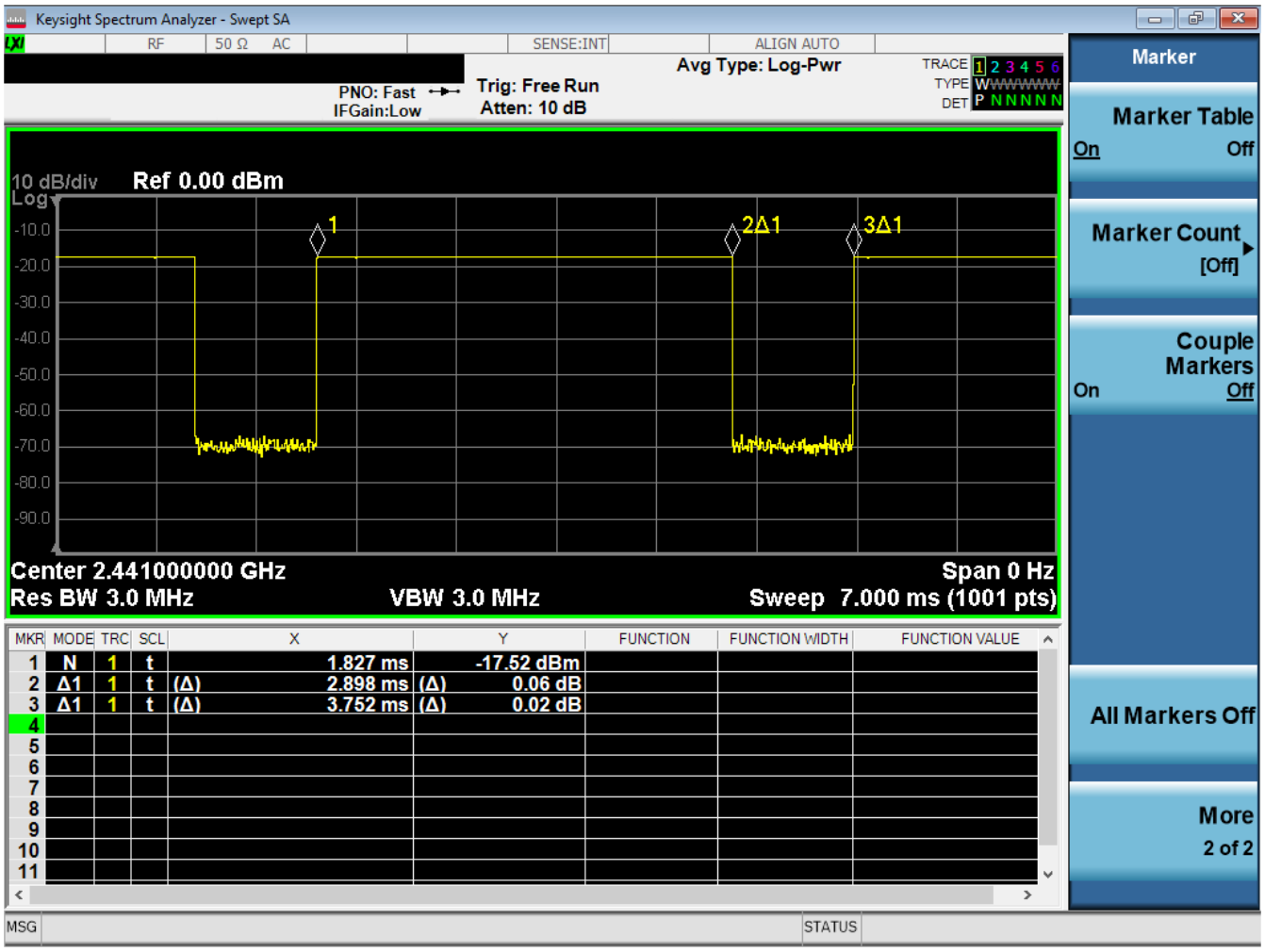

Figure 8-5
Bluetooth Transmission Plot – Antenna A, Variant 2

Equation 8-2
Bluetooth Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.898\ ms}{3.752\ ms} * 100\% = 77.2\%$$

8.5.1 Bluetooth Power Reduction Verification Summary

Antenna	Mode/Band	Condition (s)	Maximum Target Power [dBm] (Tolerance [dB])	Reduced Target Power [dBm] (Tolerance [dB])	Maximum Measured Power [dBm]	Reduced Measured Power [dBm]	Verdict
A	2.4 GHz Bluetooth	5 GHz WLAN ON Antenna A	15.50 (+1.5/-2.0)	8.50 (+1.5/-2.0)	15.58	8.31	Pass
	2.4 GHz Bluetooth	5 GHz WLAN ON Antenna B	15.50 (+1.5/-2.0)	8.50 (+1.5/-2.0)	15.58	8.15	Pass
	2.4 GHz Bluetooth	5 GHz WLAN ON Antenna A & Antenna B	15.50 (+1.5/-2.0)	8.50 (+1.5/-2.0)	15.58	8.08	Pass

Conducted powers were measured for each Mode/Band and applied condition. All conducted power measurements were verified to be within tolerance.

8.5.2 Notes for Bluetooth

- The Bluetooth chipset in this device is produced by two different suppliers. The electronically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions. Two device variants are referenced as Variant 1 and Variant 2 in this report.
- Bluetooth SAR worst case configuration was evaluated for Variant 1 and Variant 2.
- Full Power measurements were performed by Variant 1 and Variant 2 per FCC KDB Procedures 248227.

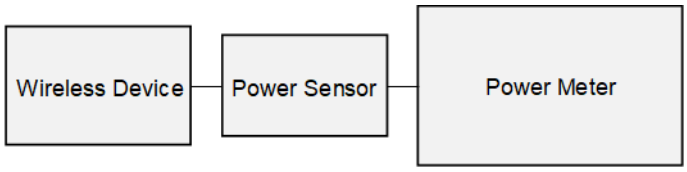

Figure 8-6
Power Measurement Setup

9 SYSTEM VERIFICATION

9.1 Tissue Verification

Table 9-1
Measured Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
06/07/2021	750 Body	23.9	725	0.924	57.145	0.961	55.629	-3.85%	2.73%
			750	0.948	56.938	0.964	55.531	-1.66%	2.53%
			770	0.967	56.772	0.965	55.453	0.21%	2.38%
			785	0.980	56.642	0.966	55.395	1.45%	2.25%
			800	0.994	56.504	0.967	55.336	2.79%	2.11%
06/11/2021	750 Body	24.0	680	0.916	53.146	0.958	55.804	-4.38%	-4.76%
			695	0.921	53.104	0.959	55.745	-3.96%	-4.74%
			700	0.922	53.090	0.959	55.726	-3.86%	-4.73%
			710	0.926	53.061	0.960	55.687	-3.54%	-4.72%
			725	0.931	53.020	0.961	55.629	-3.12%	-4.69%
			750	0.940	52.950	0.964	55.531	-2.49%	-4.65%
			770	0.947	52.904	0.965	55.453	-1.87%	-4.60%
			785	0.951	52.872	0.966	55.395	-1.55%	-4.55%
			800	0.957	52.841	0.967	55.336	-1.03%	-4.51%
06/13/2021	750 Body	23.3	680	0.972	53.620	0.958	55.804	1.46%	-3.91%
			695	0.978	53.591	0.959	55.745	1.98%	-3.86%
			700	0.979	53.579	0.959	55.726	2.09%	-3.85%
			710	0.983	53.552	0.960	55.687	2.40%	-3.83%
			725	0.987	53.507	0.961	55.629	2.71%	-3.81%
			750	0.996	53.437	0.964	55.531	3.32%	-3.77%
			770	1.003	53.398	0.965	55.453	3.94%	-3.71%
			785	1.008	53.374	0.966	55.395	4.35%	-3.65%
			800	1.013	53.349	0.967	55.336	4.76%	-3.59%
06/04/2021	835 Body	20.6	800	0.951	55.392	0.967	55.336	-1.68%	0.10%
			820	0.973	55.185	0.969	55.258	0.41%	-0.13%
			835	0.990	55.030	0.970	55.200	2.06%	-0.31%
			850	1.005	54.871	0.988	55.154	1.72%	-0.51%
06/07/2021	835 Body	21.7	820	0.952	54.539	0.969	55.258	-1.75%	-1.30%
			835	0.968	54.401	0.970	55.200	-0.21%	-1.45%
			850	0.983	54.268	0.988	55.154	-0.51%	-1.61%
07/21/2021	835 Body	21.3	815	0.963	53.983	0.968	55.271	-0.52%	-2.33%
			820	0.968	53.937	0.969	55.258	-0.10%	-2.39%
			835	0.984	53.788	0.970	55.200	1.44%	-2.56%
			850	0.997	53.646	0.988	55.154	0.91%	-2.73%
06/03/2021	1750 Body	21.2	1710	1.488	53.965	1.463	53.537	1.71%	0.80%
			1750	1.517	53.899	1.488	53.432	1.95%	0.87%
			1770	1.532	53.867	1.501	53.379	2.07%	0.91%
			1790	1.545	53.828	1.514	53.326	2.05%	0.94%
06/09/2021	1750 Body	23.4	1710	1.414	51.785	1.463	53.537	-3.35%	-3.27%
			1750	1.448	51.709	1.488	53.432	-2.69%	-3.22%
			1770	1.466	51.667	1.501	53.379	-2.33%	-3.21%
			1790	1.483	51.620	1.514	53.326	-2.05%	-3.20%
06/07/2021	1900 Body	24.0	1850	1.503	52.282	1.520	53.300	-1.12%	-1.91%
			1880	1.534	52.175	1.520	53.300	0.92%	-2.11%
			1900	1.555	52.114	1.520	53.300	2.30%	-2.23%
			1905	1.560	52.099	1.520	53.300	2.63%	-2.25%
			1910	1.565	52.083	1.520	53.300	2.96%	-2.28%
07/29/2021	2300 Body	21.0	2300	1.861	51.570	1.809	52.900	2.87%	-2.51%
			2310	1.869	51.550	1.816	52.887	2.92%	-2.53%
			2320	1.878	51.535	1.826	52.873	2.85%	-2.53%

Table 9-2
Measured Tissue Properties (Cont.)

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
06/03/2021	2450 Body	22.6	2400	1.938	51.936	1.902	52.767	1.89%	-1.57%
			2450	2.009	51.759	1.950	52.700	3.03%	-1.79%
			2500	2.076	51.562	2.021	52.636	2.72%	-2.04%
			2535	2.126	51.431	2.071	52.592	2.66%	-2.21%
			2550	2.148	51.373	2.092	52.573	2.68%	-2.28%
			2560	2.163	51.331	2.106	52.560	2.71%	-2.34%
			2600	2.218	51.164	2.163	52.509	2.54%	-2.56%
			2650	2.288	50.961	2.234	52.445	2.42%	-2.83%
			2700	2.356	50.749	2.305	52.382	2.21%	-3.12%
06/07/2021	2450 Body	23.0	2400	1.927	51.971	1.902	52.767	1.31%	-1.51%
			2450	1.997	51.798	1.950	52.700	2.41%	-1.71%
			2500	2.067	51.596	2.021	52.636	2.28%	-1.98%
06/13/2021	2450 Body	22.0	2400	1.988	52.493	1.902	52.767	4.52%	-0.52%
			2450	2.031	52.424	1.950	52.700	4.15%	-0.52%
			2500	2.077	52.461	2.021	52.636	2.77%	-0.33%
07/28/2021	5200-5800 Body	21.2	5180	5.319	47.672	5.276	49.041	0.82%	-2.79%
			5200	5.349	47.649	5.299	49.014	0.94%	-2.78%
			5220	5.373	47.605	5.323	48.987	0.94%	-2.82%
			5240	5.403	47.544	5.346	48.960	1.07%	-2.89%
			5250	5.415	47.511	5.358	48.947	1.06%	-2.93%
			5260	5.429	47.493	5.369	48.933	1.12%	-2.94%
			5270	5.445	47.475	5.381	48.919	1.19%	-2.95%
			5280	5.460	47.454	5.393	48.906	1.24%	-2.97%
			5300	5.482	47.421	5.416	48.879	1.22%	-2.98%
			5320	5.514	47.381	5.439	48.851	1.38%	-3.01%
			5500	5.773	47.038	5.650	48.607	2.18%	-3.23%
			5520	5.805	47.004	5.673	48.580	2.33%	-3.24%
			5540	5.837	46.983	5.696	48.553	2.48%	-3.23%
			5560	5.864	46.928	5.720	48.526	2.52%	-3.29%
			5580	5.898	46.904	5.743	48.499	2.70%	-3.29%
			5600	5.923	46.873	5.766	48.471	2.72%	-3.30%
			5620	5.952	46.820	5.790	48.444	2.80%	-3.35%
			5640	5.980	46.780	5.813	48.417	2.87%	-3.38%
			5660	6.009	46.750	5.837	48.390	2.95%	-3.39%
			5680	6.037	46.697	5.860	48.363	3.02%	-3.44%
			5700	6.064	46.660	5.883	48.336	3.08%	-3.47%
			5720	6.095	46.631	5.907	48.309	3.18%	-3.47%
			5745	6.124	46.565	5.936	48.275	3.17%	-3.54%
			5750	6.131	46.555	5.942	48.268	3.18%	-3.55%
			5765	6.158	46.531	5.959	48.248	3.34%	-3.56%
			5785	6.188	46.477	5.982	48.220	3.44%	-3.61%
			5800	6.209	46.434	6.000	48.200	3.48%	-3.66%
			5805	6.215	46.422	6.006	48.193	3.48%	-3.67%
			5825	6.244	46.388	6.029	48.166	3.57%	-3.69%

The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB Publication 865664 D01v01r04 and IEEE 1528-2013 6.6.1.2). The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.

Test System Verification

Prior to SAR assessment, the system is verified to ±10% of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in Appendix D.

Table 9-3
System Verification Results – 1g

SAR System	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp. (C)	Liquid Temp. (C)	Input Power (W)	Source SN	Probe SN	Measured SAR1g (W/kg)	1W Target SAR1g (W/kg)	1W Normalized SAR 1g (W/kg)	Deviation1g (%)
AM4B	750	BODY	06/07/2021	23.4	23.1	0.20	1057	7640	1.79	8.64	8.950	3.59%
AM2	750	BODY	06/11/2021	23.5	22.5	0.20	1097	7532	1.73	8.41	8.650	2.85%
AM10	750	BODY	06/13/2021	23.4	23.3	0.20	1097	7639	1.79	8.41	8.950	6.42%
AM5	835	BODY	07/21/2021	20.8	21.9	0.20	4d040	3949	1.81	9.53	9.050	-5.04%
AM6	850	BODY	06/04/2021	22.6	20.5	0.20	1010	7416	2.14	9.97	10.700	7.32%
AM6	850	BODY	06/07/2021	22.5	20.7	0.20	1010	7416	2.10	9.97	10.500	5.32%
AM9	1750	BODY	06/03/2021	22.0	22.3	0.10	1083	7638	3.73	37.10	37.300	0.54%
AM1	1750	BODY	06/09/2021	23.2	21.8	0.10	1083	3837	3.80	37.10	38.000	2.43%
AM1	1900	BODY	06/07/2021	23.0	22.5	0.10	5d030	3837	4.19	39.90	41.900	5.01%
AM2	2300	BODY	07/29/2021	21.8	21.2	0.10	1064	7532	5.20	48.40	52.000	7.44%
AM4A	2450	BODY	06/03/2021	23.1	21.3	0.10	750	7427	5.36	51.00	53.600	5.10%
AM4A	2450	BODY	06/07/2021	23.5	22.5	0.10	750	7427	5.43	51.00	54.300	6.47%
AM2	2450	BODY	06/13/2021	23.1	22.3	0.10	750	7532	5.11	51.00	51.100	0.20%
AM4A	2600	BODY	06/03/2021	23.1	21.3	0.10	1042	7427	5.71	55.20	57.100	3.44%
AM9	5250	BODY	07/28/2021	24.1	21.4	0.05	1123	7638	3.79	73.50	75.800	3.13%
AM9	5600	BODY	07/28/2021	24.1	21.4	0.05	1123	7638	4.03	77.40	80.600	4.13%
AM9	5750	BODY	07/28/2021	24.1	21.4	0.05	1123	7638	3.84	73.10	76.800	5.06%

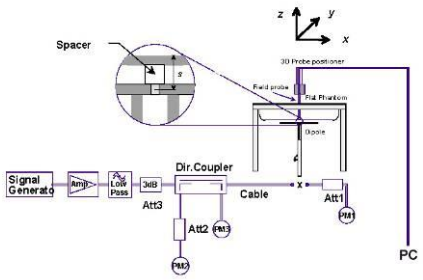

Figure 9-1
System Verification Setup Diagram

Figure 9-2
System Verification Setup Photo

10 SAR DATA SUMMARY

10.1 Standalone Body SAR Data

Table 10-1
UMTS 850 MHz Antenna C Body SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	(W/kg)	(W/kg)	
826.40	4132	UMTS 850	RMC	17.70	17.37	0.00	0 mm	Antenna C	TQQ23LGF72	1:1	back	0.885	1.079	0.955	0.450	0.486	
836.60	4183	UMTS 850	RMC	17.70	17.29	0.01	0 mm	Antenna C	TQQ23LGF72	1:1	back	0.849	1.099	0.933	0.429	0.471	
846.60	4233	UMTS 850	RMC	17.70	17.22	0.01	0 mm	Antenna C	TQQ23LGF72	1:1	back	0.845	1.117	0.944	0.427	0.477	
826.40	4132	UMTS 850	RMC	17.70	17.37	-0.06	0 mm	Antenna C	TQQ23LGF72	1:1	top	0.906	1.079	0.978	0.426	0.460	
836.60	4183	UMTS 850	RMC	17.70	17.29	-0.01	0 mm	Antenna C	TQQ23LGF72	1:1	top	0.864	1.099	0.950	0.416	0.457	
846.60	4233	UMTS 850	RMC	17.70	17.22	0.03	0 mm	Antenna C	TQQ23LGF72	1:1	top	0.865	1.117	0.966	0.416	0.465	
826.40	4132	UMTS 850	RMC	17.70	17.37	-0.04	0 mm	Antenna C	TQQ23LGF72	1:1	bottom	0.023	1.079	0.025	0.012	0.013	
826.40	4132	UMTS 850	RMC	17.70	17.37	-0.09	0 mm	Antenna C	TQQ23LGF72	1:1	right	0.113	1.079	0.122	0.054	0.058	
826.40	4132	UMTS 850	RMC	17.70	17.37	-0.10	0 mm	Antenna C	TQQ23LGF72	1:1	left	0.007	1.079	0.008	0.003	0.003	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 10-2
UMTS 850 MHz Antenna D Body SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	(W/kg)	(W/kg)	
826.40	4132	UMTS 850	RMC	19.20	19.14	-0.01	0 mm	Antenna D	L3V41WNWF9	1:1	back	1.090	1.014	1.105	0.541	0.549	A1
836.60	4183	UMTS 850	RMC	19.20	19.02	0.01	0 mm	Antenna D	L3V41WNWF9	1:1	back	1.020	1.042	1.063	0.506	0.527	
846.60	4233	UMTS 850	RMC	19.20	18.99	-0.09	0 mm	Antenna D	L3V41WNWF9	1:1	back	0.947	1.050	0.994	0.469	0.492	
826.40	4132	UMTS 850	RMC	19.20	19.14	0.01	0 mm	Antenna D	L3V41WNWF9	1:1	top	0.934	1.014	0.947	0.519	0.526	
836.60	4183	UMTS 850	RMC	19.20	19.02	-0.03	0 mm	Antenna D	L3V41WNWF9	1:1	top	0.864	1.042	0.900	0.478	0.498	
846.60	4233	UMTS 850	RMC	19.20	18.99	-0.04	0 mm	Antenna D	L3V41WNWF9	1:1	top	0.827	1.050	0.868	0.460	0.483	
826.40	4132	UMTS 850	RMC	19.20	19.14	-0.05	0 mm	Antenna D	L3V41WNWF9	1:1	bottom	0.028	1.014	0.028	0.014	0.014	
826.40	4132	UMTS 850	RMC	19.20	19.14	-0.19	0 mm	Antenna D	L3V41WNWF9	1:1	right	0.022	1.014	0.022	0.010	0.010	
826.40	4132	UMTS 850	RMC	19.20	19.14	0.04	0 mm	Antenna D	L3V41WNWF9	1:1	left	0.170	1.014	0.172	0.083	0.084	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 10-3
UMTS 1750 MHz Antenna C Body SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1712.40	1312	UMTS 1750	RMC	13.30	12.99	0.02	0 mm	Antenna C	M934V20N1X	1:1	back	0.908	1.074	0.975	0.431	0.463	
1732.40	1412	UMTS 1750	RMC	13.30	12.91	0.00	0 mm	Antenna C	M934V20N1X	1:1	back	0.932	1.094	1.020	0.444	0.486	
1752.60	1513	UMTS 1750	RMC	13.30	12.82	0.00	0 mm	Antenna C	M934V20N1X	1:1	back	0.901	1.117	1.006	0.430	0.480	
1712.40	1312	UMTS 1750	RMC	13.30	12.99	-0.01	0 mm	Antenna C	M934V20N1X	1:1	top	0.484	1.074	0.520	0.241	0.259	
1712.40	1312	UMTS 1750	RMC	13.30	12.99	-0.15	0 mm	Antenna C	M934V20N1X	1:1	bottom	0.000	1.074	0.000	0.000	0.000	
1712.40	1312	UMTS 1750	RMC	13.30	12.99	0.00	0 mm	Antenna C	M934V20N1X	1:1	right	0.062	1.074	0.067	0.029	0.031	
1712.40	1312	UMTS 1750	RMC	13.30	12.99	-0.17	0 mm	Antenna C	M934V20N1X	1:1	left	0.023	1.074	0.025	0.012	0.013	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 10-4
UMTS 1750 MHz Antenna D Body SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1712.40	1312	UMTS 1750	RMC	13.20	13.02	-0.01	0 mm	Antenna D	M934V20N1X	1:1	back	0.835	1.042	0.870	0.365	0.380	
1732.40	1412	UMTS 1750	RMC	13.20	12.94	0.01	0 mm	Antenna D	M934V20N1X	1:1	back	0.920	1.062	0.977	0.401	0.426	
1752.60	1513	UMTS 1750	RMC	13.20	12.80	0.03	0 mm	Antenna D	M934V20N1X	1:1	back	0.983	1.096	1.077	0.425	0.466	A2
1712.40	1312	UMTS 1750	RMC	13.20	13.02	0.01	0 mm	Antenna D	M934V20N1X	1:1	top	0.514	1.042	0.536	0.242	0.252	
1712.40	1312	UMTS 1750	RMC	13.20	13.02	-0.18	0 mm	Antenna D	M934V20N1X	1:1	bottom	0.001	1.042	0.001	0.000	0.000	
1712.40	1312	UMTS 1750	RMC	13.20	13.02	-0.20	0 mm	Antenna D	M934V20N1X	1:1	right	0.009	1.042	0.009	0.003	0.003	
1712.40	1312	UMTS 1750	RMC	13.20	13.02	-0.02	0 mm	Antenna D	M934V20N1X	1:1	left	0.073	1.042	0.076	0.035	0.036	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 10-5
UMTS 1900 MHz Antenna C Body SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1852.40	9262	UMTS 1900	RMC	13.10	12.70	0.00	0 mm	Antenna C	L3V41WNWF9	1:1	back	1.030	1.096	1.129	0.474	0.520	
1880.00	9400	UMTS 1900	RMC	13.10	12.66	0.02	0 mm	Antenna C	L3V41WNWF9	1:1	back	1.030	1.107	1.140	0.473	0.524	
1907.60	9538	UMTS 1900	RMC	13.10	12.65	0.01	0 mm	Antenna C	L3V41WNWF9	1:1	back	1.020	1.109	1.131	0.465	0.516	
1852.40	9262	UMTS 1900	RMC	13.10	12.70	0.00	0 mm	Antenna C	L3V41WNWF9	1:1	top	0.621	1.096	0.681	0.292	0.320	
1852.40	9262	UMTS 1900	RMC	13.10	12.70	-0.20	0 mm	Antenna C	L3V41WNWF9	1:1	bottom	0.001	1.096	0.001	0.000	0.000	
1852.40	9262	UMTS 1900	RMC	13.10	12.70	0.12	0 mm	Antenna C	L3V41WNWF9	1:1	right	0.083	1.096	0.091	0.038	0.042	
1852.40	9262	UMTS 1900	RMC	13.10	12.70	0.15	0 mm	Antenna C	L3V41WNWF9	1:1	left	0.028	1.096	0.031	0.014	0.015	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 10-6
UMTS 1900 MHz Antenna D Body SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1852.40	9262	UMTS 1900	RMC	12.00	11.92	-0.02	0 mm	Antenna D	HFNJXWW2F0	1:1	back	1.060	1.019	1.080	0.455	0.464	
1880.00	9400	UMTS 1900	RMC	12.00	11.81	0.01	0 mm	Antenna D	HFNJXWW2F0	1:1	back	1.110	1.045	1.160	0.473	0.494	A3
1907.60	9538	UMTS 1900	RMC	12.00	11.83	0.01	0 mm	Antenna D	HFNJXWW2F0	1:1	back	1.110	1.040	1.154	0.472	0.491	
1852.40	9262	UMTS 1900	RMC	12.00	11.92	-0.01	0 mm	Antenna D	HFNJXWW2F0	1:1	top	0.704	1.019	0.717	0.321	0.327	
1852.40	9262	UMTS 1900	RMC	12.00	11.92	0.00	0 mm	Antenna D	HFNJXWW2F0	1:1	bottom	0.000	1.019	0.000	0.000	0.000	
1852.40	9262	UMTS 1900	RMC	12.00	11.92	0.00	0 mm	Antenna D	HFNJXWW2F0	1:1	right	0.020	1.019	0.020	0.010	0.010	
1852.40	9262	UMTS 1900	RMC	12.00	11.92	0.10	0 mm	Antenna D	HFNJXWW2F0	1:1	left	0.084	1.019	0.086	0.039	0.040	
1880.00	9400	UMTS 1900	RMC	12.00	11.81	-0.02	0 mm	Antenna D	HFNJXWW2F0	1:1	back	1.030	1.045	1.076	0.442	0.462	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram									

Note: Blue entry represents variability measurement.

Table 10-7
LTE Band 71 Antenna C Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
680.50	133297	Mid	LTE Band 71	20	18.10	17.67	0.02	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	back	1:1	0.796	1.104	0.879	0.398	0.439	
680.50	133297	Mid	LTE Band 71	20	18.10	17.66	-0.03	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	back	1:1	0.791	1.107	0.876	0.393	0.435	
680.50	133297	Mid	LTE Band 71	20	18.10	17.65	-0.01	0	Antenna C	HFNJXWW2F0	QPSK	100	0	0 mm	back	1:1	0.854	1.109	0.947	0.416	0.461	A4
680.50	133297	Mid	LTE Band 71	20	18.10	17.67	0.01	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	top	1:1	0.451	1.104	0.498	0.226	0.250	
680.50	133297	Mid	LTE Band 71	20	18.10	17.66	0.01	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	top	1:1	0.503	1.107	0.557	0.257	0.284	
680.50	133297	Mid	LTE Band 71	20	18.10	17.67	0.20	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	bottom	1:1	0.017	1.104	0.019	0.009	0.010	
680.50	133297	Mid	LTE Band 71	20	18.10	17.66	0.18	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	bottom	1:1	0.016	1.107	0.018	0.010	0.011	
680.50	133297	Mid	LTE Band 71	20	18.10	17.67	0.07	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	right	1:1	0.097	1.104	0.107	0.049	0.054	
680.50	133297	Mid	LTE Band 71	20	18.10	17.66	0.12	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	right	1:1	0.094	1.107	0.104	0.047	0.052	
680.50	133297	Mid	LTE Band 71	20	18.10	17.67	0.18	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	left	1:1	0.015	1.104	0.017	0.006	0.007	
680.50	133297	Mid	LTE Band 71	20	18.10	17.66	0.19	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	left	1:1	0.021	1.107	0.023	0.009	0.010	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-8
LTE Band 71 Antenna D Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
680.50	133297	Mid	LTE Band 71	20	17.20	16.78	0.01	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1	0.751	1.102	0.828	0.366	0.403	
680.50	133297	Mid	LTE Band 71	20	17.20	16.71	0.01	0	Antenna D	HFNJXWW2F0	QPSK	50	25	0 mm	back	1:1	0.683	1.119	0.764	0.342	0.383	
680.50	133297	Mid	LTE Band 71	20	17.20	16.69	0.01	0	Antenna D	HFNJXWW2F0	QPSK	100	0	0 mm	back	1:1	0.698	1.125	0.785	0.350	0.394	
680.50	133297	Mid	LTE Band 71	20	17.20	16.78	0.10	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	0.354	1.102	0.390	0.177	0.195	
680.50	133297	Mid	LTE Band 71	20	17.20	16.71	0.02	0	Antenna D	HFNJXWW2F0	QPSK	50	25	0 mm	top	1:1	0.344	1.119	0.385	0.176	0.197	
680.50	133297	Mid	LTE Band 71	20	17.20	16.78	0.20	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	bottom	1:1	0.011	1.102	0.012	0.007	0.008	
680.50	133297	Mid	LTE Band 71	20	17.20	16.71	0.20	0	Antenna D	HFNJXWW2F0	QPSK	50	25	0 mm	bottom	1:1	0.009	1.119	0.010	0.006	0.007	
680.50	133297	Mid	LTE Band 71	20	17.20	16.78	0.17	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	right	1:1	0.004	1.102	0.004	0.002	0.002	
680.50	133297	Mid	LTE Band 71	20	17.20	16.71	0.19	0	Antenna D	HFNJXWW2F0	QPSK	50	25	0 mm	right	1:1	0.009	1.119	0.010	0.004	0.004	
680.50	133297	Mid	LTE Band 71	20	17.20	16.78	0.11	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	left	1:1	0.071	1.102	0.078	0.035	0.039	
680.50	133297	Mid	LTE Band 71	20	17.20	16.71	0.01	0	Antenna D	HFNJXWW2F0	QPSK	50	25	0 mm	left	1:1	0.074	1.119	0.083	0.036	0.040	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-9
LTE Band 12 Antenna C Body SAR Data

MEASUREMENT RESULTS

FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
707.50	23095	Mid	LTE Band 12	10	17.50	17.21	0.00	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	back	1:1	0.860	1.069	0.919	0.428	0.458	
707.50	23095	Mid	LTE Band 12	10	17.50	17.12	0.04	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	back	1:1	0.863	1.091	0.942	0.418	0.456	
707.50	23095	Mid	LTE Band 12	10	17.50	17.11	-0.01	0	Antenna C	L3V41WNWF9	QPSK	50	0	0 mm	back	1:1	0.869	1.094	0.951	0.420	0.459	A5
707.50	23095	Mid	LTE Band 12	10	17.50	17.21	0.01	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	top	1:1	0.472	1.069	0.505	0.257	0.275	
707.50	23095	Mid	LTE Band 12	10	17.50	17.12	0.00	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	top	1:1	0.486	1.091	0.530	0.266	0.290	
707.50	23095	Mid	LTE Band 12	10	17.50	17.21	-0.18	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	bottom	1:1	0.020	1.069	0.021	0.010	0.011	
707.50	23095	Mid	LTE Band 12	10	17.50	17.12	0.01	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	bottom	1:1	0.017	1.091	0.019	0.009	0.010	
707.50	23095	Mid	LTE Band 12	10	17.50	17.21	-0.03	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	right	1:1	0.092	1.069	0.098	0.046	0.049	
707.50	23095	Mid	LTE Band 12	10	17.50	17.12	-0.03	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	right	1:1	0.086	1.091	0.094	0.043	0.047	
707.50	23095	Mid	LTE Band 12	10	17.50	17.21	0.15	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	left	1:1	0.024	1.069	0.026	0.011	0.012	
707.50	23095	Mid	LTE Band 12	10	17.50	17.12	-0.06	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	left	1:1	0.021	1.091	0.023	0.009	0.010	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 10-10
LTE Band 12 Antenna D Body SAR Data

MEASUREMENT RESULTS

FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
707.50	23095	Mid	LTE Band 12	10	17.20	16.73	0.20	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	back	1:1	0.725	1.114	0.808	0.345	0.384	
707.50	23095	Mid	LTE Band 12	10	17.20	16.70	-0.02	0	Antenna D	L3V41WNWF9	QPSK	25	25	0 mm	back	1:1	0.735	1.122	0.825	0.366	0.411	
707.50	23095	Mid	LTE Band 12	10	17.20	16.69	0.02	0	Antenna D	L3V41WNWF9	QPSK	50	0	0 mm	back	1:1	0.689	1.125	0.775	0.342	0.385	
707.50	23095	Mid	LTE Band 12	10	17.20	16.73	0.00	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	top	1:1	0.422	1.114	0.470	0.225	0.251	
707.50	23095	Mid	LTE Band 12	10	17.20	16.70	0.00	0	Antenna D	L3V41WNWF9	QPSK	25	25	0 mm	top	1:1	0.444	1.122	0.498	0.238	0.267	
707.50	23095	Mid	LTE Band 12	10	17.20	16.73	-0.20	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	bottom	1:1	0.006	1.114	0.007	0.003	0.003	
707.50	23095	Mid	LTE Band 12	10	17.20	16.70	0.20	0	Antenna D	L3V41WNWF9	QPSK	25	25	0 mm	bottom	1:1	0.009	1.122	0.010	0.004	0.004	
707.50	23095	Mid	LTE Band 12	10	17.20	16.73	0.20	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	right	1:1	0.014	1.114	0.016	0.007	0.008	
707.50	23095	Mid	LTE Band 12	10	17.20	16.70	-0.06	0	Antenna D	L3V41WNWF9	QPSK	25	25	0 mm	right	1:1	0.022	1.122	0.025	0.010	0.011	
707.50	23095	Mid	LTE Band 12	10	17.20	16.73	-0.05	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	left	1:1	0.071	1.114	0.079	0.034	0.038	
707.50	23095	Mid	LTE Band 12	10	17.20	16.70	-0.20	0	Antenna D	L3V41WNWF9	QPSK	25	25	0 mm	left	1:1	0.057	1.122	0.064	0.028	0.031	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 10-11
LTE Band 13 Antenna C Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
782.00	23230	Mid	LTE Band 13	10	18.10	17.72	0.00	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1	0.910	1.091	0.993	0.457	0.499	A6
782.00	23230	Mid	LTE Band 13	10	18.10	17.53	0.01	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	back	1:1	0.801	1.140	0.913	0.411	0.469	
782.00	23230	Mid	LTE Band 13	10	18.10	17.48	0.01	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1	0.795	1.153	0.917	0.407	0.469	
782.00	23230	Mid	LTE Band 13	10	18.10	17.72	0.01	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	0.677	1.091	0.739	0.362	0.395	
782.00	23230	Mid	LTE Band 13	10	18.10	17.53	0.01	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	top	1:1	0.648	1.140	0.739	0.293	0.334	
782.00	23230	Mid	LTE Band 13	10	18.10	17.72	0.04	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	bottom	1:1	0.036	1.091	0.039	0.017	0.019	
782.00	23230	Mid	LTE Band 13	10	18.10	17.53	0.12	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	bottom	1:1	0.032	1.140	0.036	0.016	0.018	
782.00	23230	Mid	LTE Band 13	10	18.10	17.72	0.03	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	right	1:1	0.163	1.091	0.178	0.079	0.086	
782.00	23230	Mid	LTE Band 13	10	18.10	17.53	0.01	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	right	1:1	0.145	1.140	0.165	0.071	0.081	
782.00	23230	Mid	LTE Band 13	10	18.10	17.72	-0.04	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	left	1:1	0.022	1.091	0.024	0.011	0.012	
782.00	23230	Mid	LTE Band 13	10	18.10	17.53	0.12	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	left	1:1	0.019	1.140	0.022	0.009	0.010	
782.00	23230	Mid	LTE Band 13	10	18.10	17.72	0.00	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1	0.908	1.091	0.991	0.460	0.502	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: Blue entry represents variability measurement.

Table 10-12
LTE Band 13 Antenna D Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
782.00	23230	Mid	LTE Band 13	10	18.30	18.21	0.02	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1	0.878	1.021	0.896	0.452	0.461	
782.00	23230	Mid	LTE Band 13	10	18.30	17.90	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	back	1:1	0.807	1.096	0.884	0.414	0.454	
782.00	23230	Mid	LTE Band 13	10	18.30	17.81	-0.01	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1	0.786	1.119	0.880	0.404	0.452	
782.00	23230	Mid	LTE Band 13	10	18.30	18.21	-0.01	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	0.767	1.021	0.783	0.421	0.430	
782.00	23230	Mid	LTE Band 13	10	18.30	17.90	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	top	1:1	0.675	1.096	0.740	0.378	0.414	
782.00	23230	Mid	LTE Band 13	10	18.30	18.21	0.20	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	bottom	1:1	0.034	1.021	0.035	0.017	0.017	
782.00	23230	Mid	LTE Band 13	10	18.30	17.90	0.05	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	bottom	1:1	0.024	1.096	0.026	0.012	0.013	
782.00	23230	Mid	LTE Band 13	10	18.30	18.21	0.20	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	right	1:1	0.037	1.021	0.038	0.018	0.018	
782.00	23230	Mid	LTE Band 13	10	18.30	17.90	-0.20	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	right	1:1	0.036	1.096	0.039	0.017	0.019	
782.00	23230	Mid	LTE Band 13	10	18.30	18.21	0.10	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	left	1:1	0.168	1.021	0.172	0.081	0.083	
782.00	23230	Mid	LTE Band 13	10	18.30	17.90	0.04	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	left	1:1	0.160	1.096	0.175	0.077	0.084	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-13
LTE Band 14 Antenna C Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
793.00	23330	Mid	LTE Band 14	10	18.10	17.64	0.01	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1	0.832	1.112	0.925	0.427	0.475	
793.00	23330	Mid	LTE Band 14	10	18.10	17.72	-0.01	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	back	1:1	0.852	1.091	0.930	0.437	0.477	
793.00	23330	Mid	LTE Band 14	10	18.10	17.63	0.02	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1	0.875	1.114	0.975	0.435	0.485	A7
793.00	23330	Mid	LTE Band 14	10	18.10	17.64	0.01	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	0.636	1.112	0.707	0.336	0.374	
793.00	23330	Mid	LTE Band 14	10	18.10	17.72	0.03	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	top	1:1	0.651	1.091	0.710	0.345	0.376	
793.00	23330	Mid	LTE Band 14	10	18.10	17.64	0.02	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	bottom	1:1	0.026	1.112	0.029	0.014	0.016	
793.00	23330	Mid	LTE Band 14	10	18.10	17.72	0.02	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	bottom	1:1	0.029	1.091	0.032	0.015	0.016	
793.00	23330	Mid	LTE Band 14	10	18.10	17.64	0.01	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	right	1:1	0.135	1.112	0.150	0.066	0.073	
793.00	23330	Mid	LTE Band 14	10	18.10	17.72	0.01	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	right	1:1	0.130	1.091	0.142	0.063	0.069	
793.00	23330	Mid	LTE Band 14	10	18.10	17.64	-0.20	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	left	1:1	0.014	1.112	0.016	0.007	0.008	
793.00	23330	Mid	LTE Band 14	10	18.10	17.72	0.01	0	Antenna C	HFNJXWW2F0	QPSK	25	0	0 mm	left	1:1	0.009	1.091	0.010	0.004	0.004	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-14
LTE Band 14 Antenna D Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
793.00	23330	Mid	LTE Band 14	10	18.30	17.91	0.01	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1	0.757	1.094	0.828	0.389	0.426	
793.00	23330	Mid	LTE Band 14	10	18.30	17.90	0.00	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	back	1:1	0.759	1.096	0.832	0.389	0.426	
793.00	23330	Mid	LTE Band 14	10	18.30	17.89	0.02	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1	0.728	1.099	0.800	0.373	0.410	
793.00	23330	Mid	LTE Band 14	10	18.30	17.91	-0.03	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	0.685	1.094	0.749	0.378	0.414	
793.00	23330	Mid	LTE Band 14	10	18.30	17.90	0.00	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	top	1:1	0.666	1.096	0.730	0.370	0.406	
793.00	23330	Mid	LTE Band 14	10	18.30	17.91	0.03	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	bottom	1:1	0.024	1.094	0.026	0.012	0.013	
793.00	23330	Mid	LTE Band 14	10	18.30	17.90	0.00	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	bottom	1:1	0.023	1.096	0.025	0.010	0.011	
793.00	23330	Mid	LTE Band 14	10	18.30	17.91	0.05	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	right	1:1	0.031	1.094	0.034	0.016	0.018	
793.00	23330	Mid	LTE Band 14	10	18.30	17.90	-0.06	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	right	1:1	0.032	1.096	0.035	0.016	0.018	
793.00	23330	Mid	LTE Band 14	10	18.30	17.91	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	left	1:1	0.179	1.094	0.196	0.086	0.094	
793.00	23330	Mid	LTE Band 14	10	18.30	17.90	0.02	0	Antenna D	HFNJXWW2F0	QPSK	25	0	0 mm	left	1:1	0.178	1.096	0.195	0.084	0.092	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-15
LTE Band 26 (Cell) Antenna C Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.05	0.03	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	back	1:1	1.070	1.035	1.107	0.556	0.575	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	18.02	0.01	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	back	1:1	1.100	1.042	1.146	0.543	0.566	A8
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.86	-0.01	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	back	1:1	1.020	1.081	1.103	0.505	0.546	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.78	0.03	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	back	1:1	1.020	1.102	1.124	0.526	0.580	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	17.76	0.01	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	back	1:1	1.040	1.107	1.151	0.514	0.569	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.84	0.00	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	back	1:1	0.953	1.086	1.035	0.484	0.526	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.78	0.02	0	Antenna C	L3V41WNWF9	QPSK	50	0	0 mm	back	1:1	1.020	1.102	1.124	0.527	0.581	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.05	0.03	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	top	1:1	0.817	1.035	0.846	0.468	0.484	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	18.02	0.06	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	top	1:1	0.859	1.042	0.895	0.460	0.479	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.86	-0.02	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	top	1:1	0.895	1.081	0.967	0.446	0.482	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.78	-0.01	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	top	1:1	0.827	1.102	0.911	0.472	0.520	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	17.76	0.02	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	top	1:1	0.896	1.107	0.992	0.432	0.478	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.84	-0.11	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	top	1:1	0.855	1.086	0.929	0.449	0.488	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.78	0.13	0	Antenna C	L3V41WNWF9	QPSK	50	0	0 mm	top	1:1	0.797	1.102	0.878	0.461	0.508	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.05	-0.20	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	bottom	1:1	0.021	1.035	0.022	0.012	0.012	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.84	0.00	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	bottom	1:1	0.011	1.086	0.012	0.006	0.007	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.05	0.04	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	right	1:1	0.100	1.035	0.104	0.052	0.054	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.84	0.04	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	right	1:1	0.157	1.086	0.171	0.077	0.084	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.05	-0.20	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	left	1:1	0.004	1.035	0.004	0.002	0.002	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.84	-0.20	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	left	1:1	0.031	1.086	0.034	0.016	0.017	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	18.02	0.00	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	back	1:1	1.070	1.042	1.115	0.544	0.567	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram								

Note: Blue entry represents variability measurement.

Table 10-16
LTE Band 26 (Cell) Antenna D Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.79	0.03	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	back	1:1	0.875	1.099	0.962	0.437	0.480	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	17.70	0.00	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	back	1:1	0.759	1.122	0.852	0.374	0.420	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.69	0.01	0	Antenna D	L3V41WNWF9	QPSK	1	25	0 mm	back	1:1	0.701	1.125	0.789	0.346	0.389	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.70	0.00	0	Antenna D	L3V41WNWF9	QPSK	25	25	0 mm	back	1:1	0.832	1.122	0.934	0.416	0.467	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	17.66	0.01	0	Antenna D	L3V41WNWF9	QPSK	25	0	0 mm	back	1:1	0.730	1.132	0.826	0.360	0.408	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.72	0.02	0	Antenna D	L3V41WNWF9	QPSK	25	0	0 mm	back	1:1	0.735	1.117	0.821	0.362	0.404	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.71	0.01	0	Antenna D	L3V41WNWF9	QPSK	50	0	0 mm	back	1:1	0.837	1.119	0.937	0.418	0.468	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.79	0.05	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	top	1:1	0.715	1.099	0.786	0.400	0.440	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.72	0.02	0	Antenna D	L3V41WNWF9	QPSK	25	0	0 mm	top	1:1	0.648	1.117	0.724	0.357	0.399	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.79	-0.16	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	bottom	1:1	0.020	1.099	0.022	0.010	0.011	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.72	0.12	0	Antenna D	L3V41WNWF9	QPSK	25	0	0 mm	bottom	1:1	0.030	1.117	0.034	0.015	0.017	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.79	-0.20	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	right	1:1	0.011	1.099	0.012	0.006	0.007	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.72	-0.15	0	Antenna D	L3V41WNWF9	QPSK	25	0	0 mm	right	1:1	0.010	1.117	0.011	0.005	0.006	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.79	0.03	0	Antenna D	L3V41WNWF9	QPSK	1	0	0 mm	left	1:1	0.098	1.099	0.108	0.051	0.056	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.72	-0.05	0	Antenna D	L3V41WNWF9	QPSK	25	0	0 mm	left	1:1	0.151	1.117	0.169	0.072	0.080	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 10-17
LTE Band 5 (Cell) Antenna C Body SAR Data

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.46	-0.05	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	back	1:1	0.909	1.057	0.961	0.461	0.487	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.27	-0.01	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	back	1:1	0.834	1.104	0.921	0.424	0.468	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.17	0.00	0	Antenna C	L3V41WNWF9	QPSK	50	0	0 mm	back	1:1	0.833	1.130	0.941	0.424	0.479	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.46	-0.03	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	top	1:1	0.806	1.057	0.852	0.398	0.421	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.27	0.09	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	top	1:1	0.798	1.104	0.881	0.434	0.479	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.17	0.02	0	Antenna C	L3V41WNWF9	QPSK	50	0	0 mm	top	1:1	0.788	1.130	0.890	0.392	0.443	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.46	-0.20	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	bottom	1:1	0.017	1.057	0.018	0.010	0.011	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.27	-0.13	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	bottom	1:1	0.025	1.104	0.028	0.013	0.014	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.46	-0.07	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	right	1:1	0.119	1.057	0.126	0.058	0.061	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.27	0.00	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	right	1:1	0.117	1.104	0.129	0.056	0.062	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.46	-0.08	0	Antenna C	L3V41WNWF9	QPSK	1	49	0 mm	left	1:1	0.023	1.057	0.024	0.012	0.013	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.27	0.01	0	Antenna C	L3V41WNWF9	QPSK	25	25	0 mm	left	1:1	0.021	1.104	0.023	0.011	0.012	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-18
LTE Band 5 (Cell) Antenna D Body SAR Data

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.66	-0.01	0	Antenna D	TQQ23LGF72	QPSK	1	49	0 mm	back	1:1	0.935	1.132	1.058	0.467	0.529	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.62	0.02	0	Antenna D	TQQ23LGF72	QPSK	25	25	0 mm	back	1:1	0.935	1.143	1.069	0.466	0.533	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.57	0.02	0	Antenna D	TQQ23LGF72	QPSK	50	0	0 mm	back	1:1	0.975	1.156	1.127	0.488	0.564	A9
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.66	0.02	0	Antenna D	TQQ23LGF72	QPSK	1	49	0 mm	top	1:1	0.819	1.132	0.927	0.451	0.511	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.62	0.00	0	Antenna D	TQQ23LGF72	QPSK	25	25	0 mm	top	1:1	0.817	1.143	0.934	0.450	0.514	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.57	-0.02	0	Antenna D	TQQ23LGF72	QPSK	50	0	0 mm	top	1:1	0.821	1.156	0.949	0.453	0.524	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.66	-0.15	0	Antenna D	TQQ23LGF72	QPSK	1	49	0 mm	bottom	1:1	0.038	1.132	0.043	0.019	0.022	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.62	-0.09	0	Antenna D	TQQ23LGF72	QPSK	25	25	0 mm	bottom	1:1	0.032	1.143	0.037	0.017	0.019	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.66	0.03	0	Antenna D	TQQ23LGF72	QPSK	1	49	0 mm	right	1:1	0.011	1.132	0.012	0.005	0.006	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.62	-0.15	0	Antenna D	TQQ23LGF72	QPSK	25	25	0 mm	right	1:1	0.014	1.143	0.016	0.007	0.008	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.66	0.03	0	Antenna D	TQQ23LGF72	QPSK	1	49	0 mm	left	1:1	0.186	1.132	0.211	0.092	0.104	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	18.62	-0.06	0	Antenna D	TQQ23LGF72	QPSK	25	25	0 mm	left	1:1	0.185	1.143	0.211	0.090	0.103	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-19
LTE Band 66 (AWS) Antenna C Body SAR Data

MEASUREMENT RESULTS																								
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.05	0.00	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	back	1:1	0.908	1.059	0.962	0.429	0.454	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	13.30	12.92	-0.01	0	Antenna C	NXQYPYQ4LN	QPSK	1	50	0 mm	back	1:1	0.857	1.091	0.935	0.408	0.445	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.30	12.81	-0.01	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	back	1:1	0.903	1.119	1.010	0.430	0.481	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	12.88	-0.01	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	back	1:1	0.874	1.102	0.963	0.412	0.454	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	13.30	12.85	0.01	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	back	1:1	0.894	1.109	0.991	0.424	0.470	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.30	12.80	0.03	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	back	1:1	0.884	1.122	0.992	0.419	0.470	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	12.83	0.00	0	Antenna C	NXQYPYQ4LN	QPSK	100	0	0 mm	back	1:1	0.884	1.114	0.985	0.418	0.466	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.05	0.00	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	top	1:1	0.507	1.059	0.537	0.251	0.266	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	12.88	-0.03	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	top	1:1	0.490	1.102	0.540	0.243	0.268	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.05	0.00	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	bottom	1:1	0.000	1.059	0.000	0.000	0.000	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	12.88	-0.20	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	bottom	1:1	0.000	1.102	0.000	0.000	0.000	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.05	0.04	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	right	1:1	0.068	1.059	0.072	0.032	0.034	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	12.88	-0.03	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	right	1:1	0.069	1.102	0.076	0.032	0.035	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.05	0.02	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	left	1:1	0.028	1.059	0.030	0.014	0.015	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	12.88	0.03	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	left	1:1	0.024	1.102	0.026	0.011	0.012	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-20
LTE Band 66 (AWS) Antenna D Body SAR Data

MEASUREMENT RESULTS																								
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.17	0.01	0	Antenna D	TQQ23LGF72	QPSK	1	0	0 mm	back	1:1	0.940	1.007	0.947	0.411	0.414	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	13.20	13.16	0.00	0	Antenna D	TQQ23LGF72	QPSK	1	0	0 mm	back	1:1	1.010	1.009	1.019	0.440	0.444	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.20	13.16	0.02	0	Antenna D	TQQ23LGF72	QPSK	1	0	0 mm	back	1:1	1.100	1.009	1.110	0.481	0.485	A10
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.18	0.00	0	Antenna D	TQQ23LGF72	QPSK	50	0	0 mm	back	1:1	0.922	1.005	0.927	0.402	0.404	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	13.20	13.05	0.01	0	Antenna D	TQQ23LGF72	QPSK	50	0	0 mm	back	1:1	0.996	1.035	1.031	0.433	0.448	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.20	13.17	0.01	0	Antenna D	TQQ23LGF72	QPSK	50	0	0 mm	back	1:1	1.100	1.007	1.108	0.476	0.479	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	13.20	13.09	-0.01	0	Antenna D	TQQ23LGF72	QPSK	100	0	0 mm	back	1:1	1.000	1.026	1.026	0.438	0.449	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.17	0.01	0	Antenna D	TQQ23LGF72	QPSK	1	0	0 mm	top	1:1	0.551	1.007	0.555	0.261	0.263	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.18	0.02	0	Antenna D	TQQ23LGF72	QPSK	50	0	0 mm	top	1:1	0.539	1.005	0.542	0.255	0.256	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.17	0.16	0	Antenna D	TQQ23LGF72	QPSK	1	0	0 mm	bottom	1:1	0.001	1.007	0.001	0.000	0.000	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.18	-0.17	0	Antenna D	TQQ23LGF72	QPSK	50	0	0 mm	bottom	1:1	0.000	1.005	0.000	0.000	0.000	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.17	0.20	0	Antenna D	TQQ23LGF72	QPSK	1	0	0 mm	right	1:1	0.010	1.007	0.010	0.004	0.004	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.18	0.07	0	Antenna D	TQQ23LGF72	QPSK	50	0	0 mm	right	1:1	0.011	1.005	0.011	0.005	0.005	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.17	0.00	0	Antenna D	TQQ23LGF72	QPSK	1	0	0 mm	left	1:1	0.062	1.007	0.062	0.030	0.030	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.18	0.05	0	Antenna D	TQQ23LGF72	QPSK	50	0	0 mm	left	1:1	0.062	1.005	0.062	0.030	0.030	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.20	13.16	0.00	0	Antenna D	TQQ23LGF72	QPSK	1	0	0 mm	back	1:1	1.090	1.009	1.100	0.470	0.474	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: Blue entry represents variability measurement.

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Table 10-21
LTE Band 25 (PCS) Antenna C Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.10	12.27	0.00	0	Antenna C	NXQYPYQ4LN	QPSK	1	99	0 mm	back	1:1	0.828	1.211	1.003	0.377	0.457	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.28	0.01	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	back	1:1	0.818	1.208	0.988	0.371	0.448	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.10	12.15	0.00	0	Antenna C	NXQYPYQ4LN	QPSK	1	99	0 mm	back	1:1	0.850	1.245	1.058	0.385	0.479	
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.10	12.17	0.02	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	back	1:1	0.829	1.239	1.027	0.375	0.465	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.18	0.00	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	back	1:1	0.817	1.236	1.010	0.371	0.459	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.10	12.16	-0.01	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	back	1:1	0.830	1.242	1.031	0.378	0.469	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.17	0.03	0	Antenna C	NXQYPYQ4LN	QPSK	100	0	0 mm	back	1:1	0.841	1.239	1.042	0.381	0.472	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.28	0.01	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	top	1:1	0.518	1.208	0.626	0.242	0.292	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.18	-0.02	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	top	1:1	0.504	1.236	0.623	0.235	0.290	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.28	0.00	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	bottom	1:1	0.000	1.208	0.000	0.000	0.000	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.18	0.00	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	bottom	1:1	0.000	1.236	0.000	0.000	0.000	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.28	0.19	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	right	1:1	0.075	1.208	0.091	0.034	0.041	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.18	0.15	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	right	1:1	0.072	1.236	0.089	0.033	0.041	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.28	0.20	0	Antenna C	NXQYPYQ4LN	QPSK	1	0	0 mm	left	1:1	0.020	1.208	0.024	0.010	0.012	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.10	12.18	0.20	0	Antenna C	NXQYPYQ4LN	QPSK	50	0	0 mm	left	1:1	0.020	1.236	0.025	0.010	0.012	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 10-22
LTE Band 25 (PCS) Antenna D Body SAR Data

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	11.84	0.03	0	Antenna D	NXQYPYQ4LN	QPSK	1	0	0 mm	back	1:1	0.985	1.038	1.022	0.423	0.439	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	12.00	11.70	-0.02	0	Antenna D	NXQYPYQ4LN	QPSK	1	99	0 mm	back	1:1	1.000	1.072	1.072	0.429	0.460	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.90	0.01	0	Antenna D	NXQYPYQ4LN	QPSK	1	50	0 mm	back	1:1	1.010	1.023	1.033	0.429	0.439	A11
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	11.70	-0.02	0	Antenna D	NXQYPYQ4LN	QPSK	50	50	0 mm	back	1:1	0.956	1.072	1.025	0.410	0.440	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	12.00	11.76	0.00	0	Antenna D	NXQYPYQ4LN	QPSK	50	50	0 mm	back	1:1	0.982	1.057	1.038	0.422	0.446	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.78	0.02	0	Antenna D	NXQYPYQ4LN	QPSK	50	25	0 mm	back	1:1	0.989	1.052	1.040	0.423	0.445	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.77	0.01	0	Antenna D	NXQYPYQ4LN	QPSK	100	0	0 mm	back	1:1	1.000	1.054	1.054	0.430	0.453	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.90	0.00	0	Antenna D	NXQYPYQ4LN	QPSK	1	50	0 mm	top	1:1	0.765	1.023	0.783	0.348	0.356	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.78	-0.03	0	Antenna D	NXQYPYQ4LN	QPSK	50	25	0 mm	top	1:1	0.719	1.052	0.756	0.327	0.344	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.90	0.00	0	Antenna D	NXQYPYQ4LN	QPSK	1	50	0 mm	bottom	1:1	0.000	1.023	0.000	0.000	0.000	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.78	0.00	0	Antenna D	NXQYPYQ4LN	QPSK	50	25	0 mm	bottom	1:1	0.000	1.052	0.000	0.000	0.000	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.90	0.20	0	Antenna D	NXQYPYQ4LN	QPSK	1	50	0 mm	right	1:1	0.015	1.023	0.015	0.007	0.007	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.78	0.19	0	Antenna D	NXQYPYQ4LN	QPSK	50	25	0 mm	right	1:1	0.014	1.052	0.015	0.007	0.007	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.90	0.05	0	Antenna D	NXQYPYQ4LN	QPSK	1	50	0 mm	left	1:1	0.055	1.023	0.056	0.025	0.026	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.78	0.06	0	Antenna D	NXQYPYQ4LN	QPSK	50	25	0 mm	left	1:1	0.055	1.052	0.058	0.025	0.026	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 10-23
LTE Band 30 Antenna C Body SAR Data

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.71	-0.01	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	back	1:1	0.754	1.119	0.844	0.327	0.366	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.69	0.00	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	back	1:1	0.742	1.125	0.835	0.322	0.362	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.68	0.01	0	Antenna C	L3V41WNWF9	QPSK	50	0	0 mm	back	1:1	0.746	1.127	0.841	0.324	0.365	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.71	0.00	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	top	1:1	0.831	1.119	0.930	0.374	0.419	A12
2310.00	27710	Mid	LTE Band 30	10	13.20	12.69	-0.03	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	top	1:1	0.814	1.125	0.916	0.366	0.412	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.68	0.00	0	Antenna C	L3V41WNWF9	QPSK	50	0	0 mm	top	1:1	0.820	1.127	0.924	0.369	0.416	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.71	0.16	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	bottom	1:1	0.000	1.119	0.000	0.000	0.000	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.69	0.19	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	bottom	1:1	0.000	1.125	0.000	0.000	0.000	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.71	0.11	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	right	1:1	0.121	1.119	0.135	0.051	0.057	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.69	-0.07	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	right	1:1	0.120	1.125	0.135	0.051	0.057	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.71	0.20	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	left	1:1	0.019	1.119	0.021	0.009	0.010	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.69	0.02	0	Antenna C	L3V41WNWF9	QPSK	25	0	0 mm	left	1:1	0.019	1.125	0.021	0.009	0.010	
2310.00	27710	Mid	LTE Band 30	10	13.20	12.71	0.02	0	Antenna C	L3V41WNWF9	QPSK	1	0	0 mm	top	1:1	0.824	1.119	0.922	0.371	0.415	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram								

Note: Blue entry represents variability measurement.

Table 10-24
LTE Band 30 Antenna D Body SAR Data

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.64	0.03	0	Antenna D	NXQYPYQ4LN	QPSK	1	25	0 mm	back	1:1	0.647	1.038	0.672	0.305	0.317	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.65	0.01	0	Antenna D	NXQYPYQ4LN	QPSK	25	12	0 mm	back	1:1	0.641	1.035	0.663	0.302	0.313	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.64	0.02	0	Antenna D	NXQYPYQ4LN	QPSK	1	25	0 mm	top	1:1	0.515	1.038	0.535	0.229	0.238	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.65	-0.01	0	Antenna D	NXQYPYQ4LN	QPSK	25	12	0 mm	top	1:1	0.512	1.035	0.530	0.228	0.236	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.64	-0.20	0	Antenna D	NXQYPYQ4LN	QPSK	1	25	0 mm	bottom	1:1	0.000	1.038	0.000	0.000	0.000	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.65	0.20	0	Antenna D	NXQYPYQ4LN	QPSK	25	12	0 mm	bottom	1:1	0.000	1.035	0.000	0.000	0.000	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.64	0.05	0	Antenna D	NXQYPYQ4LN	QPSK	1	25	0 mm	right	1:1	0.029	1.038	0.030	0.013	0.013	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.65	-0.07	0	Antenna D	NXQYPYQ4LN	QPSK	25	12	0 mm	right	1:1	0.030	1.035	0.031	0.012	0.012	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.64	-0.01	0	Antenna D	NXQYPYQ4LN	QPSK	1	25	0 mm	left	1:1	0.114	1.038	0.118	0.049	0.051	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.65	-0.07	0	Antenna D	NXQYPYQ4LN	QPSK	25	12	0 mm	left	1:1	0.110	1.035	0.114	0.047	0.049	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 10-25
LTE Band 7 Antenna C Body SAR Data

MEASUREMENT RESULTS																									
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	SAR (10g) (W/kg)	Reported SAR (10g) (W/kg)	Plot #
		MHz	Ch.																						
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.15	-0.01	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1	0.805	1.059	0.852	0.327	0.346	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.07	0.02	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1	0.847	1.079	0.914	0.349	0.377	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	11.91	0.02	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	back	1:1	0.805	1.119	0.901	0.326	0.365	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.04	0.00	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	back	1:1	0.794	1.086	0.862	0.321	0.349	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.03	0.01	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1	0.836	1.089	0.910	0.344	0.375	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	11.95	-0.01	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	back	1:1	0.793	1.109	0.879	0.324	0.359	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.01	0.00	0	Antenna C	HFNJXWW2F0	QPSK	100	0	0 mm	back	1:1	0.797	1.094	0.872	0.319	0.349	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.15	-0.06	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	1.040	1.059	1.101	0.444	0.470	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.07	-0.08	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	1.090	1.079	1.176	0.463	0.500	A13
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	11.91	-0.20	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	top	1:1	1.050	1.119	1.175	0.438	0.490	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.04	-0.02	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	top	1:1	1.060	1.086	1.151	0.451	0.490	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.03	-0.05	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1	1.080	1.089	1.176	0.455	0.495	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	11.95	-0.18	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	top	1:1	1.050	1.109	1.164	0.439	0.487	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.01	-0.09	0	Antenna C	HFNJXWW2F0	QPSK	100	0	0 mm	top	1:1	1.030	1.094	1.127	0.432	0.473	
2 CC Uplink	PCC	2535.00	21100	Mid	LTE Band 7	20	12.40	11.74	-0.07	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	0.999	1.164	1.163	0.424	0.494	
2 CC Uplink	SCC	2515.20	20902	Mid	LTE Band 7	20								1	99									
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.15	0.00	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	bottom	1:1	0.000	1.059	0.000	0.000	0.000	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.04	0.00	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	bottom	1:1	0.000	1.086	0.000	0.000	0.000	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.15	0.08	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	right	1:1	0.126	1.059	0.133	0.051	0.054	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.04	0.09	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	right	1:1	0.125	1.086	0.136	0.051	0.055	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.15	0.20	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	left	1:1	0.027	1.059	0.029	0.011	0.012	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.04	0.19	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	left	1:1	0.020	1.086	0.022	0.008	0.009	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.04	0.02	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	top	1:1	0.942	1.086	1.023	0.408	0.443	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.07	-0.01	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	0.938	1.079	1.012	0.408	0.440	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram								

Note: Blue entry represents variability measurement.

Table 10-26
LTE Band 7 Antenna D Body SAR Data

MEASUREMENT RESULTS																									
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	SAR (10g) (W/kg)	Reported SAR (10g) (W/kg)	Plot #
		MHz	Ch.																						
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.97	-0.06	0	Antenna D	HFNJXWW2F0	QPSK	1	99	0 mm	back	1:1	0.776	1.104	0.857	0.337	0.372	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	11.75	-0.04	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1	0.755	1.161	0.877	0.329	0.382	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	11.79	0.02	0	Antenna D	HFNJXWW2F0	QPSK	1	99	0 mm	back	1:1	0.658	1.151	0.757	0.283	0.326	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.89	-0.03	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	back	1:1	0.763	1.125	0.858	0.333	0.375	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	11.80	-0.04	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	back	1:1	0.733	1.148	0.841	0.317	0.364	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	11.72	0.02	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	back	1:1	0.671	1.169	0.784	0.289	0.338	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.88	0.02	0	Antenna D	HFNJXWW2F0	QPSK	100	0	0 mm	back	1:1	0.796	1.127	0.897	0.345	0.389	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.97	0.00	0	Antenna D	HFNJXWW2F0	QPSK	1	99	0 mm	top	1:1	0.855	1.104	0.944	0.355	0.392	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	11.75	-0.03	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1	0.842	1.161	0.978	0.345	0.401	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	11.79	-0.03	0	Antenna D	HFNJXWW2F0	QPSK	1	99	0 mm	top	1:1	0.890	1.151	1.024	0.365	0.420	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.89	0.00	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	top	1:1	0.842	1.125	0.947	0.350	0.394	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	11.80	-0.01	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	top	1:1	0.860	1.148	0.987	0.354	0.406	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	11.67	-0.01	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1	0.901	1.183	1.066	0.365	0.432	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	11.72	0.02	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	top	1:1	0.890	1.169	1.040	0.364	0.426	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.88	-0.04	0	Antenna D	HFNJXWW2F0	QPSK	100	0	0 mm	top	1:1	0.850	1.127	0.958	0.354	0.399	
2 CC Uplink	PCC	2560.00	21350	High	LTE Band 7	20	12.40	11.64	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1	0.851	1.191	1.014	0.350	0.417	
2 CC Uplink	SCC	2540.20	21152	High	LTE Band 7	20								50	50									
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.97	-0.20	0	Antenna D	HFNJXWW2F0	QPSK	1	99	0 mm	bottom	1:1	0.004	1.104	0.004	0.003	0.003	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.89	-0.20	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	bottom	1:1	0.004	1.125	0.005	0.003	0.003	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.97	-0.03	0	Antenna D	HFNJXWW2F0	QPSK	1	99	0 mm	right	1:1	0.025	1.104	0.028	0.013	0.014	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.89	-0.20	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	right	1:1	0.023	1.125	0.026	0.012	0.014	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.97	0.03	0	Antenna D	HFNJXWW2F0	QPSK	1	99	0 mm	left	1:1	0.113	1.104	0.125	0.047	0.052	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	11.89	0.05	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	left	1:1	0.115	1.125	0.129	0.047	0.053	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 10-27
LTE Band 41 Antenna C Body SAR Data

MEASUREMENT RESULTS																								
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.97	-0.03	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	back	1:1.58	0.873	1.130	0.986	0.349	0.394	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	13.89	-0.02	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1.58	0.896	1.151	1.031	0.357	0.411	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	14.50	13.89	0.00	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1.58	0.823	1.151	0.947	0.324	0.373	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	14.50	13.80	0.01	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1.58	0.751	1.175	0.882	0.292	0.343	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	14.50	13.88	0.03	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	back	1:1.58	0.656	1.153	0.756	0.251	0.289	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.90	-0.04	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1.58	0.860	1.148	0.987	0.346	0.397	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	13.80	-0.02	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1.58	0.876	1.175	1.029	0.347	0.408	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	14.50	13.76	0.01	0	Antenna C	HFNJXWW2F0	QPSK	50	25	0 mm	back	1:1.58	0.787	1.186	0.933	0.309	0.366	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	14.50	13.73	0.05	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1.58	0.734	1.194	0.876	0.284	0.339	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	14.50	13.84	0.03	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	back	1:1.58	0.658	1.164	0.766	0.254	0.296	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.89	-0.02	0	Antenna C	HFNJXWW2F0	QPSK	100	0	0 mm	back	1:1.58	0.860	1.151	0.990	0.346	0.398	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.97	-0.05	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	top	1:1.58	0.957	1.130	1.081	0.405	0.458	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	13.89	-0.06	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1.58	1.010	1.151	1.163	0.427	0.491	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	14.50	13.89	-0.05	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1.58	1.020	1.151	1.174	0.421	0.485	A14
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	14.50	13.80	-0.05	0	Antenna C	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1.58	0.962	1.175	1.130	0.393	0.462	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	14.50	13.88	0.00	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	top	1:1.58	0.871	1.153	1.004	0.350	0.404	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.90	-0.05	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1.58	0.936	1.148	1.075	0.396	0.455	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	13.80	-0.05	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1.58	1.010	1.175	**1.187**	0.421	0.495	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	14.50	13.76	-0.05	0	Antenna C	HFNJXWW2F0	QPSK	50	25	0 mm	top	1:1.58	0.991	1.186	1.175	0.408	0.484	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	14.50	13.73	-0.06	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1.58	0.939	1.194	1.121	0.383	0.457	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	14.50	13.84	-0.20	0	Antenna C	HFNJXWW2F0	QPSK	50	50	0 mm	top	1:1.58	0.881	1.164	1.025	0.352	0.410	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.89	-0.12	0	Antenna C	HFNJXWW2F0	QPSK	100	0	0 mm	top	1:1.58	0.954	1.151	1.098	0.404	0.465	
1 CC Uplink - Power Class 2	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	13.89	-0.06	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:2.31	0.681	1.151	0.784	0.288	0.331	
2 CC Uplink	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	13.82	-0.07	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1.58	0.973	1.169	1.137	0.407	0.476	
2 CC Uplink	SCC	2529.70	39987	Low-Mid	LTE Band 41	20								50	50									
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.97	-0.20	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	bottom	1:1.58	0.005	1.130	0.006	0.004	0.005	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.90	-0.20	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	bottom	1:1.58	0.004	1.148	0.005	0.003	0.003	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.97	0.06	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	right	1:1.58	0.123	1.130	0.139	0.052	0.059	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.90	0.08	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	right	1:1.58	0.122	1.148	0.140	0.052	0.060	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.97	-0.04	0	Antenna C	HFNJXWW2F0	QPSK	1	99	0 mm	left	1:1.58	0.030	1.130	0.034	0.014	0.016	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	13.90	0.04	0	Antenna C	HFNJXWW2F0	QPSK	50	0	0 mm	left	1:1.58	0.027	1.148	0.031	0.014	0.016	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	**Body 1.6 W/kg (mW/g) averaged over 1 gram**							

Table 10-28
LTE Band 41 Antenna D Body SAR Data

MEASUREMENT RESULTS																									
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.36	-0.01	0	Antenna D	HFNJXWW2F0	QPSK	1	50	0 mm	back	1:1.58	0.721	1.033	0.745	0.312	0.322	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	14.20	0.01	0	Antenna D	HFNJXWW2F0	QPSK	1	50	0 mm	back	1:1.58	0.711	1.072	0.762	0.304	0.326	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	14.50	14.07	0.02	0	Antenna D	HFNJXWW2F0	QPSK	1	50	0 mm	back	1:1.58	0.635	1.104	0.701	0.265	0.293	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	14.50	13.87	0.00	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1.58	0.579	1.156	0.669	0.239	0.276	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	14.50	13.78	0.01	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	back	1:1.58	0.496	1.180	0.585	0.203	0.240	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.29	0.04	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	back	1:1.58	0.728	1.050	0.764	0.314	0.330	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	14.14	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1.58	0.708	1.086	0.769	0.301	0.327	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	14.50	14.09	0.01	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1.58	0.639	1.099	0.702	0.266	0.292	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	14.50	13.89	-0.20	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	back	1:1.58	0.558	1.151	0.642	0.230	0.265	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	14.50	13.78	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	50	25	0 mm	back	1:1.58	0.454	1.180	0.536	0.185	0.218	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.28	0.00	0	Antenna D	HFNJXWW2F0	QPSK	100	0	0 mm	back	1:1.58	0.730	1.052	0.768	0.316	0.332	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.36	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	1	50	0 mm	top	1:1.58	0.775	1.033	0.801	0.322	0.333	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	14.20	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	1	50	0 mm	top	1:1.58	0.898	1.072	0.963	0.368	0.394	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	14.50	14.07	0.00	0	Antenna D	HFNJXWW2F0	QPSK	1	50	0 mm	top	1:1.58	0.920	1.104	1.016	0.374	0.413	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	14.50	13.87	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1.58	0.957	1.156	1.106	0.385	0.445	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	14.50	13.78	-0.01	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1.58	0.942	1.180	1.112	0.375	0.443	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.29	-0.01	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	top	1:1.58	0.783	1.050	0.822	0.324	0.340	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	14.50	14.14	-0.01	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1.58	0.884	1.086	0.960	0.361	0.392	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	14.50	14.09	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1.58	0.890	1.099	0.978	0.365	0.401	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	14.50	13.89	-0.01	0	Antenna D	HFNJXWW2F0	QPSK	50	0	0 mm	top	1:1.58	0.932	1.151	1.073	0.373	0.429	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	14.50	13.78	0.00	0	Antenna D	HFNJXWW2F0	QPSK	50	25	0 mm	top	1:1.58	0.894	1.180	1.055	0.353	0.417	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.28	0.02	0	Antenna D	HFNJXWW2F0	QPSK	100	0	0 mm	top	1:1.58	0.777	1.052	0.817	0.322	0.339	
1 CC Uplink - Power Class 2	N/A	2680.00	41490	High	LTE Band 41	20	14.50	14.11	-0.03	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:2.31	0.632	1.094	0.691	0.252	0.276	
2 CC Uplink	PCC	2680.00	41490	High	LTE Band 41	20	14.50	13.75	-0.02	0	Antenna D	HFNJXWW2F0	QPSK	1	0	0 mm	top	1:1.58	0.890	1.189	1.058	0.354	0.421	
2 CC Uplink	SCC	2660.20	41292	High	LTE Band 41	20								1	99									
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.36	-0.20	0	Antenna D	HFNJXWW2F0	QPSK	1	50	0 mm	bottom	1:1.58	0.005	1.033	0.005	0.004	0.004	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.29	0.20	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	bottom	1:1.58	0.004	1.050	0.004	0.003	0.003	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.36	0.14	0	Antenna D	HFNJXWW2F0	QPSK	1	50	0 mm	right	1:1.58	0.022	1.033	0.023	0.012	0.012	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.29	0.20	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	right	1:1.58	0.021	1.050	0.022	0.011	0.012	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.36	0.00	0	Antenna D	HFNJXWW2F0	QPSK	1	50	0 mm	left	1:1.58	0.119	1.033	0.123	0.050	0.052	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	14.50	14.29	0.00	0	Antenna D	HFNJXWW2F0	QPSK	50	50	0 mm	left	1:1.58	0.116	1.050	0.122	0.048	0.050	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 10-29
2.4GHz WLAN Antenna A Body SAR Data

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.														(W/kg)			(W/kg)	(W/kg)	(W/kg)	
2437	6	802.11b	DSSS	22	16.00	15.25	0.10	0 mm	Antenna A	V2	M934V20N1X	1	back	99.7	0.054	1.189	1.003	0.064	0.025	0.030	
2437	6	802.11b	DSSS	22	16.00	15.25	-0.20	0 mm	Antenna A	V2	M934V20N1X	1	top	99.7	0.007	1.189	1.003	0.008	0.003	0.004	
2412	1	802.11b	DSSS	22	16.00	14.87	-0.20	0 mm	Antenna A	V1	HFNJXWW2F0	1	bottom	99.3	0.587	1.297	1.007	0.767	0.195	0.255	
2412	1	802.11b	DSSS	22	16.00	15.08	0.06	0 mm	Antenna A	V2	M934V20N1X	1	bottom	99.7	0.743	1.236	1.003	**0.921**	0.245	0.304	A15
2437	6	802.11b	DSSS	22	16.00	15.25	-0.03	0 mm	Antenna A	V2	M934V20N1X	1	bottom	99.7	0.732	1.189	1.003	0.873	0.244	0.291	
2462	11	802.11b	DSSS	22	16.00	15.03	-0.20	0 mm	Antenna A	V2	M934V20N1X	1	bottom	99.7	0.573	1.250	1.003	0.718	0.194	0.243	
2437	6	802.11b	DSSS	22	16.00	15.25	0.00	0 mm	Antenna A	V2	M934V20N1X	1	right	99.7	0.000	1.189	1.003	0.000	0.000	0.000	
2437	6	802.11b	DSSS	22	16.00	15.25	-0.10	0 mm	Antenna A	V2	M934V20N1X	1	left	99.7	0.142	1.189	1.003	0.169	0.063	0.075	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 10-30
2.4GHz WLAN Antenna B Body SAR Data

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.														(W/kg)			(W/kg)	(W/kg)	(W/kg)	
2462	11	802.11b	DSSS	22	16.00	15.21	-0.01	0 mm	Antenna B	V2	TQQ23LGF72	1	back	99.3	0.046	1.199	1.007	0.056	0.021	0.025	
2462	11	802.11b	DSSS	22	16.00	15.21	-0.20	0 mm	Antenna B	V2	TQQ23LGF72	1	top	99.3	0.008	1.199	1.007	0.010	0.003	0.004	
2412	1	802.11b	DSSS	22	16.00	15.03	-0.15	0 mm	Antenna B	V1	NXQYPYQ4LN	1	bottom	99.6	0.628	1.250	1.004	0.788	0.208	0.261	
2412	1	802.11b	DSSS	22	16.00	14.98	0.06	0 mm	Antenna B	V2	TQQ23LGF72	1	bottom	99.3	0.675	1.265	1.007	0.860	0.223	0.284	
2437	6	802.11b	DSSS	22	16.00	15.05	0.02	0 mm	Antenna B	V2	TQQ23LGF72	1	bottom	99.3	0.583	1.245	1.007	0.731	0.196	0.246	
2462	11	802.11b	DSSS	22	16.00	15.21	0.08	0 mm	Antenna B	V2	TQQ23LGF72	1	bottom	99.3	0.612	1.199	1.007	0.739	0.204	0.246	
2462	11	802.11b	DSSS	22	16.00	15.21	-0.07	0 mm	Antenna B	V2	TQQ23LGF72	1	right	99.3	0.114	1.199	1.007	0.138	0.049	0.059	
2462	11	802.11b	DSSS	22	16.00	15.21	-0.10	0 mm	Antenna B	V2	TQQ23LGF72	1	left	99.3	0.001	1.199	1.007	0.001	0.000	0.000	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram													

Table 10-31
5GHz WLAN Antenna A Body SAR Data

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.														(W/kg)			(W/kg)	(W/kg)	(W/kg)	
5270	54	802.11n	OFDM	40	17.00	16.20	-0.20	0 mm	Antenna A	V2	TQQ23LGF72	13.5	back	98.1	0.038	1.202	1.019	0.047	0.013	0.016	
5270	54	802.11n	OFDM	40	17.00	16.20	-0.20	0 mm	Antenna A	V2	TQQ23LGF72	13.5	top	98.1	0.023	1.202	1.019	0.028	0.005	0.006	
5270	54	802.11n	OFDM	40	17.00	16.00	-0.02	0 mm	Antenna A	V1	HFNJXWW2F0	13.5	bottom	97.8	0.627	1.259	1.022	0.807	0.207	0.266	
5270	54	802.11n	OFDM	40	17.00	16.20	0.08	0 mm	Antenna A	V2	TQQ23LGF72	13.5	bottom	98.1	0.794	1.202	1.019	0.973	0.262	0.321	
5310	62	802.11n	OFDM	40	14.50	13.58	0.10	0 mm	Antenna A	V2	TQQ23LGF72	13.5	bottom	98.1	0.376	1.236	1.019	0.474	0.122	0.154	
5270	54	802.11n	OFDM	40	17.00	16.20	0.15	0 mm	Antenna A	V2	TQQ23LGF72	13.5	right	98.1	0.003	1.202	1.019	0.004	0.000	0.000	
5270	54	802.11n	OFDM	40	17.00	16.20	0.19	0 mm	Antenna A	V2	TQQ23LGF72	13.5	left	98.1	0.081	1.202	1.019	0.099	0.031	0.038	
5690	138	802.11ac	OFDM	80	17.50	16.56	0.06	0 mm	Antenna A	V2	TQQ23LGF72	29.3	back	95.4	0.069	1.242	1.048	0.090	0.022	0.029	
5690	138	802.11ac	OFDM	80	17.50	16.56	0.20	0 mm	Antenna A	V2	TQQ23LGF72	29.3	top	95.4	0.025	1.242	1.048	0.033	0.008	0.010	
5530	106	802.11ac	OFDM	80	12.00	11.07	0.08	0 mm	Antenna A	V2	TQQ23LGF72	29.3	bottom	95.4	0.234	1.239	1.048	0.304	0.077	0.100	
5610	122	802.11ac	OFDM	80	15.00	14.63	-0.04	0 mm	Antenna A	V2	TQQ23LGF72	29.3	bottom	95.4	0.507	1.089	1.048	0.579	0.171	0.195	
5690	138	802.11ac	OFDM	80	17.50	16.49	0.01	0 mm	Antenna A	V1	HFNJXWW2F0	29.3	bottom	95.7	0.741	1.262	1.045	0.977	0.255	0.336	
5690	138	802.11ac	OFDM	80	17.50	16.56	0.02	0 mm	Antenna A	V2	TQQ23LGF72	29.3	bottom	95.4	0.787	1.242	1.048	1.024	0.272	0.354	
5690	138	802.11ac	OFDM	80	17.50	16.56	0.15	0 mm	Antenna A	V2	TQQ23LGF72	29.3	right	95.4	0.000	1.242	1.048	0.000	0.000	0.000	
5690	138	802.11ac	OFDM	80	17.50	16.56	0.20	0 mm	Antenna A	V2	TQQ23LGF72	29.3	left	95.4	0.095	1.242	1.048	0.124	0.035	0.046	
5755	151	802.11n	OFDM	40	16.25	15.28	0.20	0 mm	Antenna A	V2	TQQ23LGF72	13.5	back	98.1	0.073	1.250	1.019	0.093	0.021	0.027	
5755	151	802.11n	OFDM	40	16.25	15.28	0.20	0 mm	Antenna A	V2	TQQ23LGF72	13.5	top	98.1	0.012	1.250	1.019	0.015	0.003	0.004	
5755	151	802.11n	OFDM	40	16.25	15.28	0.03	0 mm	Antenna A	V2	TQQ23LGF72	13.5	bottom	98.1	0.690	1.250	1.019	0.879	0.236	0.301	
5795	159	802.11n	OFDM	40	16.25	15.12	-0.16	0 mm	Antenna A	V1	HFNJXWW2F0	13.5	bottom	97.8	0.646	1.297	1.022	0.856	0.216	0.286	
5795	159	802.11n	OFDM	40	16.25	15.21	-0.05	0 mm	Antenna A	V2	TQQ23LGF72	13.5	bottom	98.1	0.711	1.271	1.019	0.921	0.244	0.316	
5755	151	802.11n	OFDM	40	16.25	15.28	-0.20	0 mm	Antenna A	V2	TQQ23LGF72	13.5	right	98.1	0.002	1.250	1.019	0.003	0.000	0.000	
5755	151	802.11n	OFDM	40	16.25	15.28	-0.06	0 mm	Antenna A	V2	TQQ23LGF72	13.5	left	98.1	0.080	1.250	1.019	0.102	0.027	0.034	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram													

Table 10-32
5GHz WLAN Antenna B Body SAR Data

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.														(W/kg)			(W/kg)	(W/kg)	(W/kg)	
5270	54	802.11n	OFDM	40	16.75	15.97	-0.20	0 mm	Antenna B	V2	TQQ23LGF72	13.5	back	97.9	0.124	1.197	1.021	0.152	0.045	0.055	
5270	54	802.11n	OFDM	40	16.75	15.97	-0.12	0 mm	Antenna B	V2	TQQ23LGF72	13.5	top	97.9	0.031	1.197	1.021	0.038	0.008	0.010	
5270	54	802.11n	OFDM	40	16.75	15.81	-0.10	0 mm	Antenna B	V1	L3V41WNWF9	13.5	bottom	97.8	0.775	1.242	1.022	0.984	0.265	0.336	
5270	54	802.11n	OFDM	40	16.75	15.97	0.04	0 mm	Antenna B	V2	TQQ23LGF72	13.5	bottom	97.9	0.922	1.197	1.021	1.127	0.304	0.372	A16
5310	62	802.11n	OFDM	40	14.50	13.54	0.00	0 mm	Antenna B	V2	TQQ23LGF72	13.5	bottom	97.9	0.543	1.247	1.021	0.691	0.178	0.227	
5270	54	802.11n	OFDM	40	16.75	15.97	-0.08	0 mm	Antenna B	V2	TQQ23LGF72	13.5	right	97.9	0.108	1.197	1.021	0.132	0.040	0.049	
5270	54	802.11n	OFDM	40	16.75	15.97	0.00	0 mm	Antenna B	V2	TQQ23LGF72	13.5	left	97.9	0.000	1.197	1.021	0.000	0.000	0.000	
5690	138	802.11ac	OFDM	80	17.25	16.14	0.11	0 mm	Antenna B	V1	NXQYPYQ4LN	29.3	back	95.8	0.052	1.291	1.044	0.070	0.013	0.018	
5690	138	802.11ac	OFDM	80	17.25	16.14	-0.20	0 mm	Antenna B	V1	NXQYPYQ4LN	29.3	top	95.8	0.024	1.291	1.044	0.032	0.003	0.004	
5530	106	802.11ac	OFDM	80	12.00	11.12	-0.19	0 mm	Antenna B	V2	TQQ23LGF72	29.3	bottom	95.4	0.150	1.225	1.048	0.193	0.044	0.056	
5610	122	802.11ac	OFDM	80	15.00	14.53	-0.10	0 mm	Antenna B	V2	TQQ23LGF72	29.3	bottom	95.4	0.394	1.114	1.048	0.460	0.135	0.158	
5690	138	802.11ac	OFDM	80	17.25	16.28	-0.08	0 mm	Antenna B	V2	TQQ23LGF72	29.3	bottom	95.4	0.641	1.250	1.048	0.840	0.234	0.307	
5690	138	802.11ac	OFDM	80	17.25	16.14	-0.02	0 mm	Antenna B	V1	NXQYPYQ4LN	29.3	bottom	95.8	0.642	1.291	1.044	0.865	0.229	0.309	
5690	138	802.11ac	OFDM	80	17.25	16.14	-0.20	0 mm	Antenna B	V1	NXQYPYQ4LN	29.3	right	95.8	0.118	1.291	1.044	0.159	0.034	0.046	
5690	138	802.11ac	OFDM	80	17.25	16.14	0.00	0 mm	Antenna B	V1	NXQYPYQ4LN	29.3	left	95.8	0.000	1.291	1.044	0.000	0.000	0.000	
5755	151	802.11n	OFDM	40	16.50	15.66	0.13	0 mm	Antenna B	V2	TQQ23LGF72	13.5	back	97.9	0.046	1.213	1.021	0.057	0.015	0.019	
5755	151	802.11n	OFDM	40	16.50	15.66	-0.20	0 mm	Antenna B	V2	TQQ23LGF72	13.5	top	97.9	0.025	1.213	1.021	0.031	0.003	0.004	
5755	151	802.11n	OFDM	40	16.50	15.58	0.05	0 mm	Antenna B	V1	NXQYPYQ4LN	13.5	bottom	97.8	0.618	1.236	1.022	0.781	0.214	0.270	
5755	151	802.11n	OFDM	40	16.50	15.66	-0.07	0 mm	Antenna B	V2	TQQ23LGF72	13.5	bottom	97.9	0.715	1.213	1.021	0.886	0.255	0.316	
5795	159	802.11n	OFDM	40	16.50	15.63	0.03	0 mm	Antenna B	V2	TQQ23LGF72	13.5	bottom	97.9	0.707	1.222	1.021	0.882	0.256	0.319	
5755	151	802.11n	OFDM	40	16.50	15.66	-0.20	0 mm	Antenna B	V2	TQQ23LGF72	13.5	right	97.9	0.101	1.213	1.021	0.125	0.029	0.036	
5755	151	802.11n	OFDM	40	16.50	15.66	-0.20	0 mm	Antenna B	V2	TQQ23LGF72	13.5	left	97.9	0.007	1.213	1.021	0.009	0.003	0.004	
5270	54	802.11n	OFDM	40	16.75	15.97	-0.13	0 mm	Antenna B	V2	TQQ23LGF72	13.5	bottom	97.9	0.901	1.197	1.021	1.101	0.298	0.364	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Note: Blue entry represents variability measurement.

Table 10-33
Bluetooth Antenna A Body SAR Data

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.													(W/kg)			(W/kg)	(W/kg)	(W/kg)	
2441	39	Bluetooth	FHSS	17.00	16.10	-0.20	0 mm	Antenna A	V1	L3V41WNWF9	1	back	76.9	0.048	1.230	1.008	0.060	0.025	0.031	
2441	39	Bluetooth	FHSS	17.00	16.10	-0.20	0 mm	Antenna A	V1	L3V41WNWF9	1	top	76.9	0.011	1.230	1.008	0.014	0.007	0.009	
2402	0	Bluetooth	FHSS	17.00	16.06	-0.04	0 mm	Antenna A	V2	M934V20N1X	1	bottom	77.2	0.618	1.242	1.004	0.771	0.203	0.253	
2441	39	Bluetooth	FHSS	17.00	16.10	-0.05	0 mm	Antenna A	V1	L3V41WNWF9	1	bottom	76.9	0.625	1.230	1.008	0.775	0.201	0.249	
2441	39	Bluetooth	FHSS	17.00	16.40	-0.08	0 mm	Antenna A	V2	M934V20N1X	1	bottom	77.2	0.755	1.148	1.004	0.870	0.247	0.285	A17
2480	78	Bluetooth	FHSS	17.00	16.16	-0.02	0 mm	Antenna A	V2	M934V20N1X	1	bottom	77.2	0.641	1.213	1.004	0.781	0.210	0.256	
2480	78	Bluetooth	FHSS	10.00	9.05	0.04	0 mm	Antenna A	V2	M934V20N1X	1	bottom	77.2	0.147	1.245	1.004	0.184	0.048	0.060	
2441	39	Bluetooth	FHSS	17.00	16.10	0.17	0 mm	Antenna A	V1	L3V41WNWF9	1	right	76.9	0.003	1.230	1.008	0.004	0.002	0.002	
2441	39	Bluetooth	FHSS	17.00	16.10	0.04	0 mm	Antenna A	V1	L3V41WNWF9	1	left	76.9	0.103	1.230	1.008	0.128	0.049	0.061	
2480	78	Bluetooth	FHSS	10.00	9.26	-0.12	0 mm	Antenna A	V1	L3V41WNWF9	1	left	76.9	0.018	1.186	1.008	0.022	0.007	0.008	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Note: The reported SAR was scaled to the 77.5% transmission duty factor to determine compliance since the duty factor of the device is permanently limited to 77.5% per the manufacturer.

10.2 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in FCC KDB Publication 616217 D04v01r02 and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 12 for variability analysis.
7. FCC KDB Publication 616217 D04v01r02 Section 4.3, SAR tests are required for the back surface and edges of the tablet with the tablet touching the phantom. The SAR Exclusion Threshold in FCC KDB 447498 D01v06 was applied to determine SAR test exclusion for adjacent edge configurations.
8. The orange highlights throughout the report represents the highest scaled SAR per Equipment Class.

UMTS Notes:

1. UMTS mode was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
   Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s).

LTE Notes:

1. LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 7.5.4.
2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported LTE Band 41 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions. Please see Section 13 for linearity results.

8. For LTE Band 7 and LTE Band 41, per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power. ULCA is only supported in Power Class 3.

WLAN Notes:

1. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 7.6.4 for more information.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations. See Section 7.6.5 for more information.
3. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see Section 11 for complete analysis.
4. When the maximum reported 1g averaged SAR is ≤0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured.
5. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.

Bluetooth Notes

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 77.5% transmission duty factor to determine compliance. See Section 8.5 for the time domain plot and calculation for the duty factor of the device.

11 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

11.1 Introduction

The following procedures adopted from FCC KDB Publication 447498 D01v06 are applicable to devices with built-in unlicensed transmitters such as 802.11 and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

11.2 Simultaneous Transmission Procedures

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D01v06 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

Note: * The SAR distributions for at least one of the antennas are spatially separated from the other antennas per FCC KDB Publication 248227 Section 6.1 procedures. Therefore, the simultaneous transmission was treated independently for this configuration. See Section 11.4 for more information about the Spatial Separation Analysis.

For each position, the highest SAR value across all modes for the applicable cellular band antenna was considered for summation to determine simultaneous SAR test exclusion.

11.3 Body SAR Simultaneous Transmission Analysis

Table 11-1
Cellular Band Antenna C Simultaneous Transmission Scenario with 2.4 GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna C SAR (W/kg)	2.4 GHz WLAN Antenna A SAR (W/kg)	2.4 GHz WLAN Antenna B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.151	0.064	0.056	1.215	1.207	**1.271**
	Top	1.187	0.008	0.010	1.195	1.197	1.205
	Bottom	0.039	0.921	0.860	0.960	0.899	0.960*
	Right	0.178	0.000	0.138	0.178	0.316	0.316
	Left	0.034	0.169	0.001	0.203	0.035	0.204

Table 11-2
Cellular Band Antenna D Simultaneous Transmission Scenario with 2.4 GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna D SAR (W/kg)	2.4 GHz WLAN Antenna A SAR (W/kg)	2.4 GHz WLAN Antenna B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.160	0.064	0.056	1.224	1.216	**1.280**
	Top	1.112	0.008	0.010	1.120	1.122	1.130
	Bottom	0.043	0.921	0.860	0.964	0.903	0.964*
	Right	0.039	0.000	0.138	0.039	0.177	0.177
	Left	0.211	0.169	0.001	0.380	0.212	0.381

Table 11-3
Cellular Band Antenna C Simultaneous Transmission Scenario with 5 GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna C SAR (W/kg)	5 GHz WLAN Antenna A SAR (W/kg)	5 GHz WLAN Antenna B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.151	0.093	0.152	1.244	1.303	**1.396**
	Top	1.187	0.033	0.038	1.220	1.225	1.258
	Bottom	0.039	1.024	1.127	1.063	1.166	1.166*
	Right	0.178	0.004	0.159	0.182	0.337	0.341
	Left	0.034	0.124	0.009	0.158	0.043	0.167

Table 11-4
Cellular Band Antenna D Simultaneous Transmission Scenario with 5 GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna D SAR (W/kg)	5 GHz WLAN Antenna A SAR (W/kg)	5 GHz WLAN Antenna B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.160	0.093	0.152	1.253	1.312	**1.405**
	Top	1.112	0.033	0.038	1.145	1.150	1.183
	Bottom	0.043	1.024	1.127	1.067	1.170	1.170*
	Right	0.039	0.004	0.159	0.043	0.198	0.202
	Left	0.211	0.124	0.009	0.335	0.220	0.344

Table 11-5
Cellular Band Antenna C Simultaneous Transmission Scenario with Bluetooth

Simult Tx	Configuration	Cellular Band Antenna C SAR (W/kg)	Bluetooth Antenna A SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body SAR	Back	1.151	0.060	**1.211**
	Top	1.187	0.014	1.201
	Bottom	0.039	0.870	0.909
	Right	0.178	0.004	0.182
	Left	0.034	0.128	0.162

Table 11-6
Cellular Band Antenna D Simultaneous Transmission Scenario with Bluetooth

Simult Tx	Configuration	Cellular Band Antenna D SAR (W/kg)	Bluetooth Antenna A SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body SAR	Back	1.160	0.060	**1.220**
	Top	1.112	0.014	1.126
	Bottom	0.043	0.870	0.913
	Right	0.039	0.004	0.043
	Left	0.211	0.128	0.339

Table 11-7
Cellular Band Antenna C Simultaneous Transmission Scenario with Bluetooth and 5GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna C SAR (W/kg)	5 GHz WLAN Antenna A SAR (W/kg)	5 GHz WLAN Antenna B SAR (W/kg)	Bluetooth Antenna A at 10 dBm SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+4	1+3+4	1+2+3+4
Body SAR	Back	1.151	0.093	0.152	0.060	1.304	1.363	**1.456**
	Top	1.187	0.033	0.038	0.014	1.234	1.239	1.272
	Bottom	0.039	1.024	1.127	0.184	1.247	1.350	1.247*
	Right	0.178	0.004	0.159	0.004	0.186	0.341	0.345
	Left	0.034	0.124	0.009	0.022	0.180	0.065	0.189

Table 11-8
Cellular Band Antenna D Simultaneous Transmission Scenario with Bluetooth and 5GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna D SAR (W/kg)	5 GHz WLAN Antenna A SAR (W/kg)	5 GHz WLAN Antenna B SAR (W/kg)	Bluetooth Antenna A at 10 dBm SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+4	1+3+4	1+2+3+4
Body SAR	Back	1.160	0.093	0.152	0.060	1.313	1.372	**1.465**
	Top	1.112	0.033	0.038	0.014	1.159	1.164	1.197
	Bottom	0.043	1.024	1.127	0.184	1.251	1.354	1.251*
	Right	0.039	0.004	0.159	0.004	0.047	0.202	0.206
	Left	0.211	0.124	0.009	0.022	0.357	0.242	0.366

11.4 Spatial Separation Analysis

Per FCC KDB Publication 248227, antennas may be considered spatially separated when the aggregate SAR from multiple antennas at any location in the combined SAR distribution is either ≤ 1.2 W/kg where at least 90% of the SAR is attributed to a single SAR distribution or ≤ 0.4 W/kg where no more than one SAR distribution is contributing > 0.1 W/kg.

Spatial separation was determined by inspection of the area scan SAR distributions to confirm that at all locations, SAR was < 1.2 W/kg, where at least 90% of the SAR is attributed to a single SAR distribution. See below for illustrations of the spatial separated antennas considered.

11.4.1 Bottom Edge Spatial Separation Analysis

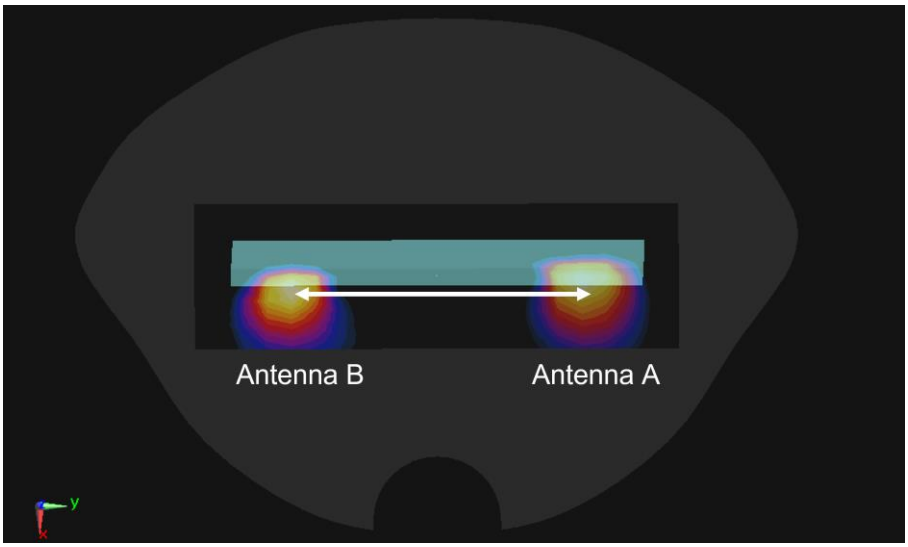

Figure 11-1
Bottom Edge Spatial Separation for Antenna A and Antenna B

11.5 Simultaneous Transmission Conclusion

The above numerical summed SAR results for all the worst-case and spatial separation analysis of simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528-2013 Section 6.3.4.1.2.

12 SAR MEASUREMENT VARIABILITY

12.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1g SAR limit).
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg
5) When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

Table 12-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS															
Band	FREQUENCY		Mode	Antenna	Service	Data Rate (Mbps)	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.							(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1900	1880.00	9400	UMTS 1900	Antenna D	RMC	N/A	back	0 mm	1.110	1.030	1.08	N/A	N/A	N/A	N/A
750	782.00	23230	LTE Band 13, 10 MHz Bandwidth	Antenna C	QPSK, 1 RB, 0 RB Offset	N/A	back	0 mm	0.910	0.908	1.00	N/A	N/A	N/A	N/A
850	831.50	26865	LTE Band 26 (Cell), 10 MHz Bandwidth	Antenna C	QPSK, 1 RB, 0 RB Offset	N/A	back	0 mm	1.100	1.070	1.03	N/A	N/A	N/A	N/A
1750	1770.00	132572	LTE Band 66 (AWS), 20 MHz Bandwidth	Antenna D	QPSK, 1 RB, 0 RB Offset	N/A	back	0 mm	1.100	1.090	1.01	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	Antenna C	QPSK, 1 RB, 0 RB Offset	N/A	top	0 mm	0.831	0.824	1.01	N/A	N/A	N/A	N/A
2450	2510.00	20850	LTE Band 7, 20 MHz Bandwidth	Antenna C	QPSK, 50 RB, 50 RB Offset	N/A	top	0 mm	1.060	0.942	1.13	N/A	N/A	N/A	N/A
2600	2535.00	21100	LTE Band 7, 20 MHz Bandwidth	Antenna C	QPSK, 1 RB, 0 RB Offset	N/A	top	0 mm	1.090	0.938	1.16	N/A	N/A	N/A	N/A
5250	5270.00	54	802.11n, 40 MHz Bandwidth	Antenna B	OFDM	13.5	bottom	0 mm	0.922	0.901	1.02	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram						

12.2 Measurement Uncertainty

The measured SAR was <1.5 W/kg for 1g and <3.75 W/kg for 10g for all frequency bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE 1528-2013 was not required.

13 ADDITIONAL TESTING PER FCC GUIDANCE

13.1 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per May 2017 TCB Workshop Notes based on the device behavior, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the highest power and available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR for each exposure condition. The linearity between the Power Class 2 and Power Class 3 SAR results and the respective frame averaged powers was calculated to determine that the results were linear.
Per May 2017 TCB Workshop, no additional SAR measurements were required since the linearity between power classes was < 10% and all reported SAR values were < 1.4 W/kg for 1g and < 3.5 W/kg for 10g.

LTE Band 41 SAR testing with power class 2 at the highest power and available duty factor was additionally performed for the power class 3 configuration with the highest SAR for each exposure condition.

Table 13-1
LTE Band 41 Body Linearity Data – Antenna C

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	14.5	14.5
Measured Output Power (dBm)	13.8	13.89
Measured SAR (W/kg)	1.01	0.681
Measured Power (mW)	23.99	24.49
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	15.18	10.60
% deviation from expected linearity		-3.45%

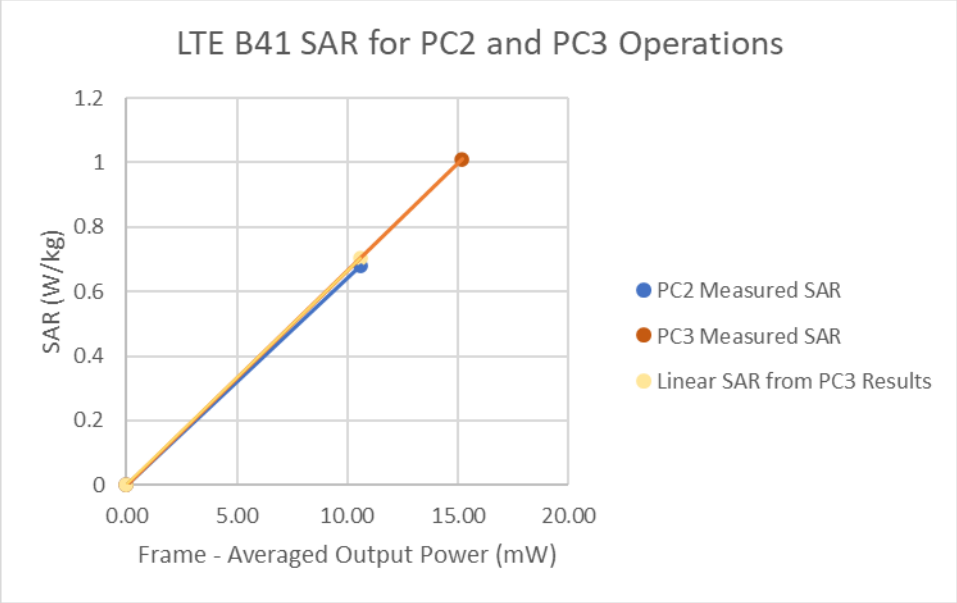

Figure 13-2
LTE Band 41 Body Linearity Data – Antenna C

Table 13-2
LTE Band 41 Body Linearity – Antenna D

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	14.5	14.5
Measured Output Power (dBm)	13.78	14.11
Measured SAR (W/kg)	0.942	0.632
Measured Power (mW)	23.88	25.76
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	15.11	11.16
% deviation from expected linearity		-9.10%

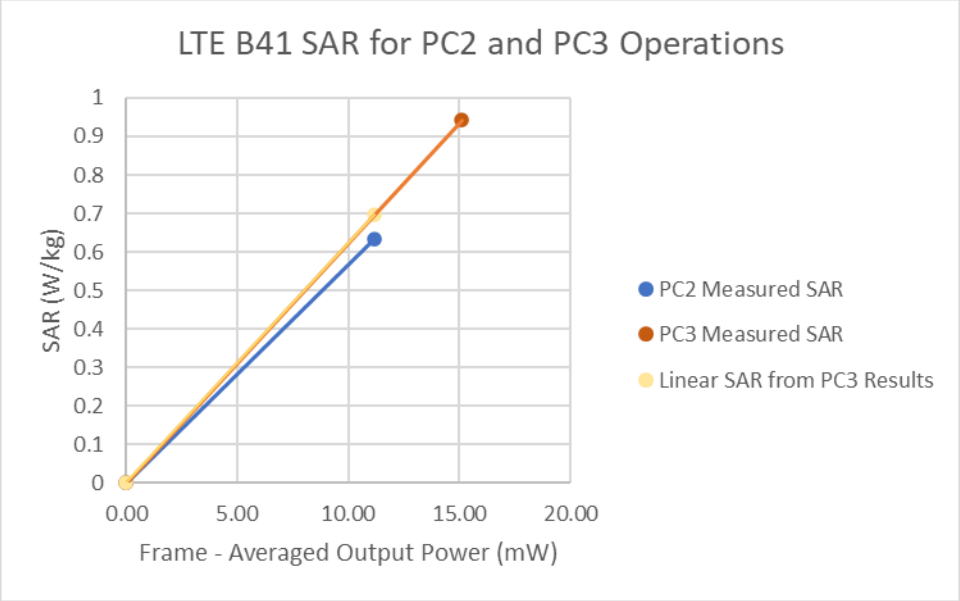

Figure 13-2
LTE Band 41 Body Linearity – Antenna D

14 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8753ES	S-Parameter Network Analyzer	09/16/2020	Annual	09/16/2021	MY40000670
Agilent	E4438C	ESG Vector Signal Generator	12/02/2020	Annual	12/02/2021	MY42081752
Agilent	E5515C	Wireless Communications Test Set	12/15/2020	Annual	12/15/2021	GB42361078
Agilent	N5182A	MXG Vector Signal Generator	09/25/2020	Annual	09/25/2021	US46240505
Agilent	N5182A	MXG Vector Signal Generator	12/01/2020	Annual	12/01/2021	MY47420837
Agilent	N9020A	MXA Signal Analyzer	12/21/2020	Annual	12/21/2021	MY50200571
Amplifier Research	150A100C	Amplifier	CBT	N/A	CBT	350132
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343971
Anritsu	MA24106A	USB Power Sensor	09/15/2020	Annual	09/15/2021	1244515
Anritsu	MA24106A	USB Power Sensor	09/15/2020	Annual	09/15/2021	1248508
Anritsu	MA24106A	USB Power Sensor	02/25/2021	Annual	02/25/2022	1520503
Anritsu	MA24106A	USB Power Sensor	02/25/2021	Annual	02/25/2022	1520501
Anritsu	MA2411B	Pulse Power Sensor	12/18/2020	Annual	12/18/2021	1126066
Anritsu	ML2495A	Power Meter	11/03/2020	Annual	11/03/2021	1039008
Anritsu	MT8820C	Radio Communication Analyzer	09/30/2020	Annual	09/30/2021	6201240328
Anritsu	MT8821C	Radio Communication Analyzer	05/21/2021	Annual	05/21/2022	6201144419
Control Company	4040	Therm./Clock/Humidity Monitor	02/17/2020	Biennial	02/17/2022	200113269
Control Company	4040	Therm./Clock/Humidity Monitor	02/17/2020	Biennial	02/17/2022	200113274
Control Company	4040	Therm./Clock/Humidity Monitor	03/06/2020	Biennial	03/06/2022	200170313
Control Company	4353	Long Stem Thermometer	10/28/2020	Biennial	10/28/2022	200670646
Control Company	4353	Long Stem Thermometer	10/28/2020	Biennial	10/28/2022	200670653
Insize	1108-150	Digital Caliper	01/17/2020	Biennial	01/17/2022	409193536
KEYSIGHT	E4438C	VECTOR SIGNAL GENERATOR	06/22/2020	Annual	06/22/2021	MY45092078
MCL	BW-N10W5+	10dB Attenuator	CBT	N/A	CBT	1611
MCL	BW-N3W5+	3dB Attenuator	CBT	N/A	CBT	1812
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1311
Mini-Circuits	NLP-1000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	ZHDC-16-63-S+	50-6000MHz Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	04/13/2020	Annual	04/13/2022	167284
Rohde & Schwarz	CMW500	Radio Communication Tester	04/27/2021	Annual	04/27/2022	167285
Rohde & Schwarz	CMW500	Radio Communication Tester	10/16/2020	Annual	10/16/2021	101699
Rohde & Schwarz	CMW500	Radio Communication Tester	10/16/2020	Annual	10/16/2021	106578
Rohde & Schwarz	CMW500	Radio Communication Tester	10/27/2020	Annual	10/27/2021	108843
Rohde & Schwarz	FSP-7	Spectrum Analyzer	01/09/2020	Biennial	01/09/2022	100990
Rohde& Schwarz	CMW500	Wideband Radio Communication Tester	09/17/2020	Annual	09/17/2021	145663
Rosenberger	32W1006-016	Torque Wrench	12/01/2020	Annual	12/01/2021	N/A
SPEAG	DAKS-3.5	Portable DAK	09/09/2020	Annual	09/09/2021	1045
SPEAG	D750V3	750 MHz SAR Dipole	06/20/2019	Biennial	06/20/2021	1057
SPEAG	D750V3	750 MHz SAR Dipole	09/08/2020	Annual	09/08/2021	1097
SPEAG	D835V2	835 MHz SAR Dipole	06/20/2019	Triennial	06/20/2022	4d040
SPEAG	D850V2	850 MHz SAR Dipole	09/08/2020	Annual	09/08/2021	1010
SPEAG	D1750V2	1750 MHz SAR Dipole	06/19/2019	Biennial	06/19/2021	1083
SPEAG	D1900V2	1900 MHz SAR Dipole	06/19/2019	Biennial	06/19/2021	5d030
SPEAG	D2300V2	2300 MHz SAR Dipole	11/10/2020	Annual	11/10/2021	1064
SPEAG	D2450V2	2450 MHz SAR Dipole	06/14/2019	Biennial	06/14/2021	750
SPEAG	D2600V2	2600 MHz SAR Dipole	06/14/2019	Biennial	06/14/2021	1042
SPEAG	D5GHzV2	5 GHz SAR Dipole	03/10/2021	Annual	03/10/2022	1123
SPEAG	EX3DV4	SAR Probe	03/03/2021	Annual	03/03/2022	7640
SPEAG	EX3DV4	SAR Probe	04/19/2021	Annual	04/19/2022	7532
SPEAG	EX3DV4	SAR Probe	03/03/2021	Annual	03/03/2022	7639
SPEAG	EX3DV4	SAR Probe	05/18/2021	Annual	05/18/2022	7416
SPEAG	EX3DV4	SAR Probe	03/03/2021	Annual	03/03/2022	7638
SPEAG	EX3DV4	SAR Probe	01/18/2021	Annual	01/18/2022	3837
SPEAG	EX3DV4	SAR Probe	02/17/2021	Annual	02/17/2022	7427
SPEAG	EX3DV4	SAR Probe	08/19/2021	Annual	08/19/2021	3949
SPEAG	DAE4	Dasy Data Acquisition Electronics	01/11/2021	Annual	01/11/2022	1645
SPEAG	DAE4	Dasy Data Acquisition Electronics	04/13/2021	Annual	04/13/2022	501
SPEAG	DAE4	Dasy Data Acquisition Electronics	01/11/2021	Annual	01/11/2022	1646
SPEAG	DAE4	Dasy Data Acquisition Electronics	05/11/2021	Annual	05/11/2022	701
SPEAG	DAE4	Dasy Data Acquisition Electronics	01/13/2021	Annual	01/13/2022	793
SPEAG	DAE4	Dasy Data Acquisition Electronics	02/11/2021	Annual	02/11/2022	1403
SPEAG	DAE4	Dasy Data Acquisition Electronics	01/11/2021	Annual	01/11/2022	1644
SPEAG	DAE4	Dasy Data Acquisition Electronics	09/13/2020	Annual	09/13/2021	1408

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.

15 MEASUREMENT UNCERTAINTIES

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E2.1	6.55	N	1	1	1	6.6	6.6	∞
Axial Isotropy	E2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E2.3	2	R	1.732	1	1	1.2	1.2	∞
Linearity	E2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E2.4	0.25	R	1.732	1	1	0.1	0.1	∞
Readout Electronics	E2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E2.7	0.8	R	1.732	1	1	0.5	0.5	∞
Integration Time	E2.8	2.6	R	1.732	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E6.1	3	R	1.732	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E6.1	3	R	1.732	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E6.2	0.8	R	1.732	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E6.3	6.7	R	1.732	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E5	4	R	1.732	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E2.9	5	R	1.732	1	1	2.9	2.9	∞
SAR Scaling	E6.5	0	R	1.732	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E3.4	3.4	R	1.732	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E3.4	0.6	R	1.732	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				11.6	11.4	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				23.2	22.8	

The above measurement uncertainties are according to IEEE Std. 1528-2013

16 CONCLUSION

16.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

17 REFERENCES

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APPENDIX A: SAR TEST DATA

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: L3V41WNWF9

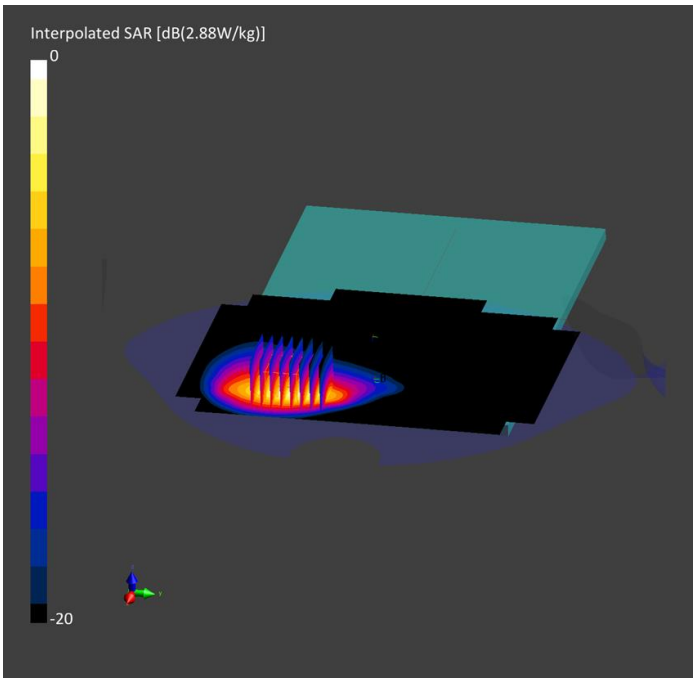
Communication System: UID:10011-CAB, WCDMA; MAIA: Y; Frequency: 826.4 MHz
Medium: 835 Body; Medium parameters used:
f = 826.4 MHz; cond = 0.96 S/m; perm = 54.5; density = 1000 kg/m3
Phantom Section: Flat; Space: 0.00 mm

Test Date: 06/07/2021; Ambient Temp: 22.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7416; ConvF:(9.66,9.66,9.66); Calibrated: 2021-05-18
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn701; Calibrated: 2021-05-11
Phantom: Twin-SAM V4.0; Serial: 1357
Measurement SW: cDASY6 Module SAR V6.14.0.959

Mode: UMTS 850 Antenna D, Body SAR, Back side, Low.ch

Area Scan (210.0 x 300.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=5.8mm, dy=5.8mm, dz=1.5mm; Graded Ratio: 1.5
Reference Value = 1.35 W/kg; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.88 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.541 W/kg
Smallest distance from peaks to all points 3 dB below = 7.0 mm
Ratio of SAR at M2 to SAR at M1 = 69.4 %



PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: M934V20N1X

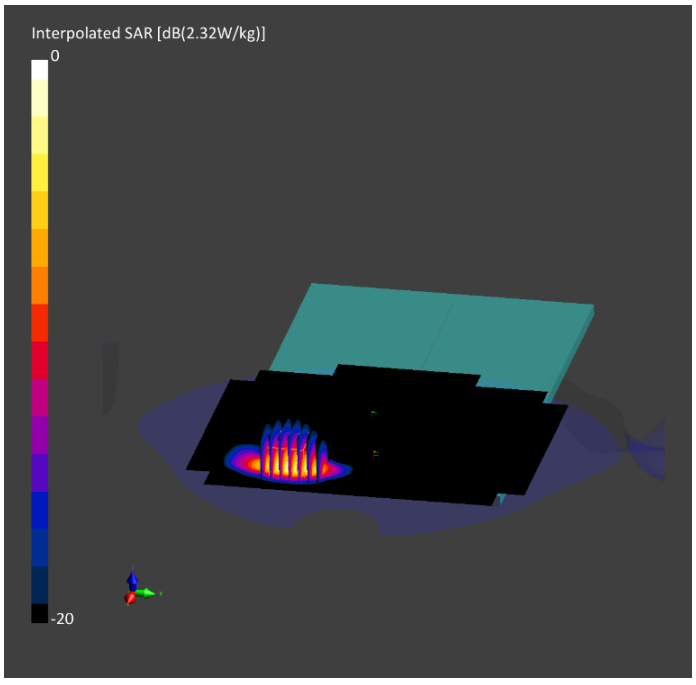
Communication System: UID:10011-CAB, WCDMA; MAIA: Y; Frequency: 1752.6 MHz
Medium: 1750 Body; Medium parameters used:
f = 1752.6 MHz; cond = 1.45 S/m; perm = 51.7; density = 1000 kg/m3
Phantom Section: Flat; Space: 0.00 mm

Test Date: 06/09/2021; Ambient Temp: 23.2°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN3837; ConvF:(7.74,7.74,7.74); Calibrated: 2021-01-18
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn793; Calibrated: 2021-01-13
Phantom: Twin-SAM V5.0 Main; Serial: 1736
Measurement SW: cDASY6 Module SAR V6.14.0.959

Mode: UMTS 1750 Antenna D, Body SAR. Back side, High. ch

Area Scan (210.0 x 300.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=5.8mm, dy=5.8mm, dz=1.5mm; Graded Ratio: 1.5
Reference Value = 1.23 W/kg; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 2.32 W/kg
SAR(1 g) = 0.983 W/kg; SAR(10 g) = 0.425 W/kg
Smallest distance from peaks to all points 3 dB below = 7.0 mm
Ratio of SAR at M2 to SAR at M1 = 77.5 %



PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: HFNJXWW2F0

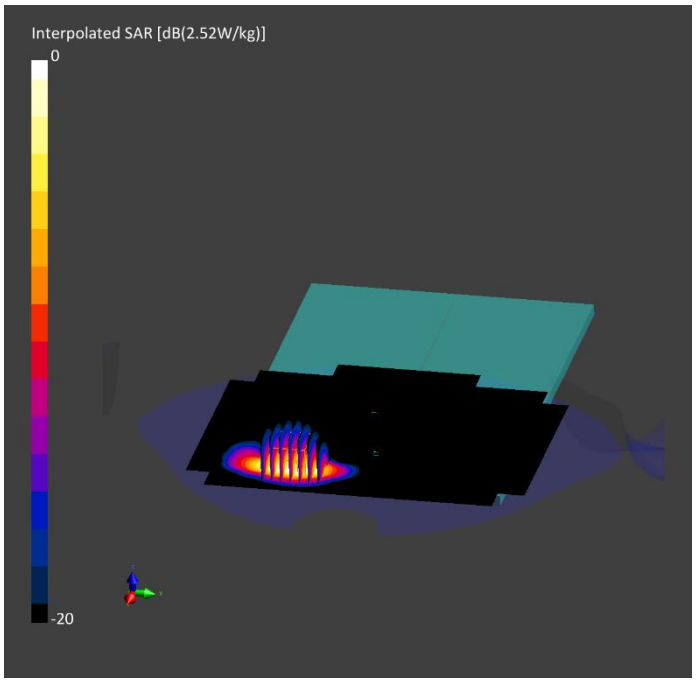
Communication System: UID:10011-CAB, WCDMA; MAIA: Y; Frequency: 1880.0 MHz
Medium: 1900 Body; Medium parameters used:
f = 1880.0 MHz; cond = 1.53 S/m; perm = 52.2; density = 1000 kg/m3
Phantom Section: Flat; Space: 0.00 mm

Test Date: 06/07/2021; Ambient Temp: 23.0°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3837; ConvF:(7.53,7.53,7.53); Calibrated: 2021-01-18
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn793; Calibrated: 2021-01-13
Phantom: Twin-SAM V5.0 Main; Serial: 1736
Measurement SW: cDASY6 Module SAR V6.14.0.959

Mode: UMTS 1900 Antenna D, Body SAR, Back side, Mid. ch

Area Scan (210.0 x 300.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=5.8mm, dy=5.8mm, dz=1.5mm; Graded Ratio: 1.5
Reference Value = 1.54 W/kg; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.52 W/kg
SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.473 W/kg
Smallest distance from peaks to all points 3 dB below = 7.0 mm
Ratio of SAR at M2 to SAR at M1 = 79.3 %



PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: HFNJXWW2F0

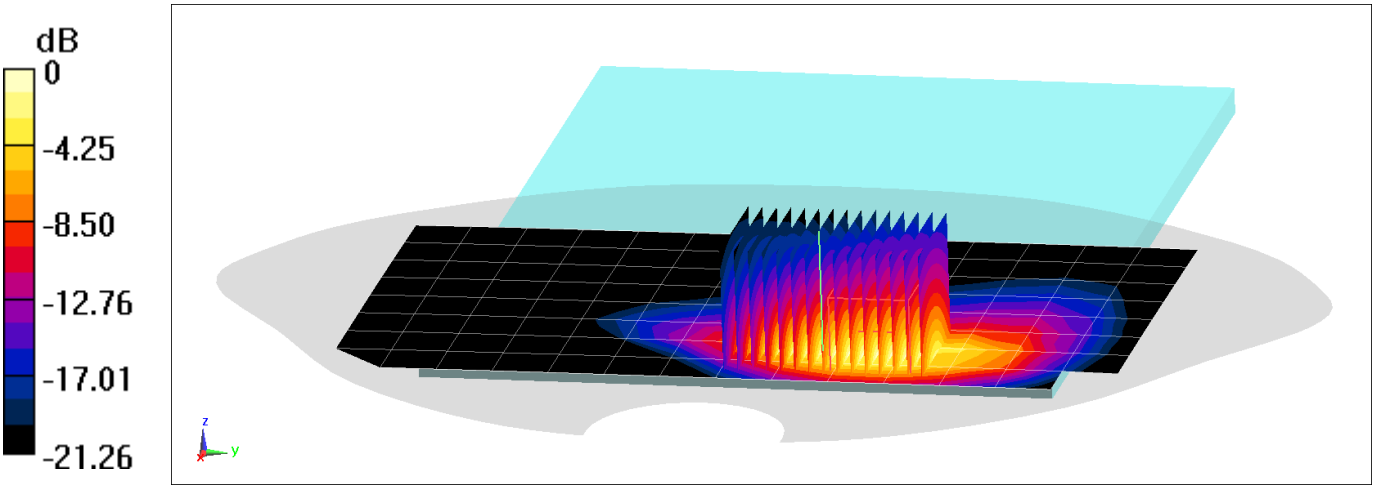
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.972 S/m; ε_r = 53.619; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06/13/2021; Ambient Temp: 23.4°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN7639; ConvF(10.66, 10.66, 10.66) @ 680.5 MHz; Calibrated: 3/3/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1646; Calibrated: 1/11/2021
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 2129
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 71 Antenna C, Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 100 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (11x15x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 26.83 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.42 W/kg
SAR(1 g) = 0.854 W/kg; SAR(10 g) = 0.416 W/kg
Smallest distance from peaks to all points 3 dB below = 5.8 mm
Ratio of SAR at M2 to SAR at M1 = 61.1%



0 dB = 1.59 W/kg = 2.01 dBW/kg

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: L3V41WNWF9

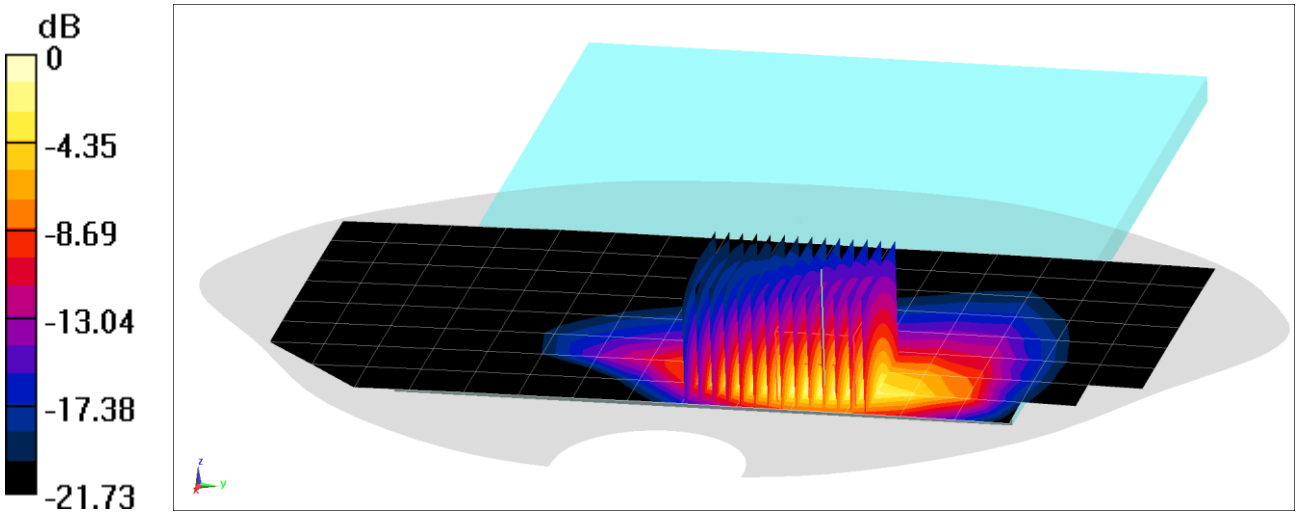
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.925 S/m; ε_r = 53.068; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06/11/2021; Ambient Temp: 23.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7532; ConvF(10.44, 10.44, 10.44) @ 707.5 MHz; Calibrated: 4/19/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn501; Calibrated: 4/13/2021
Phantom: Twin-SAM V5.0 Left; Type: QD 000 P40 CD; Serial: 1793
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 12 Antenna C, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

Area Scan (9x17x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (12x14x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 27.43 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.41 W/kg
SAR(1 g) = 0.869 W/kg; SAR(10 g) = 0.420 W/kg
Smallest distance from peaks to all points 3 dB below = 6.1 mm
Ratio of SAR at M2 to SAR at M1 = 69.6%



0 dB = 1.62 W/kg = 2.10 dBW/kg

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: HFNJXWW2F0

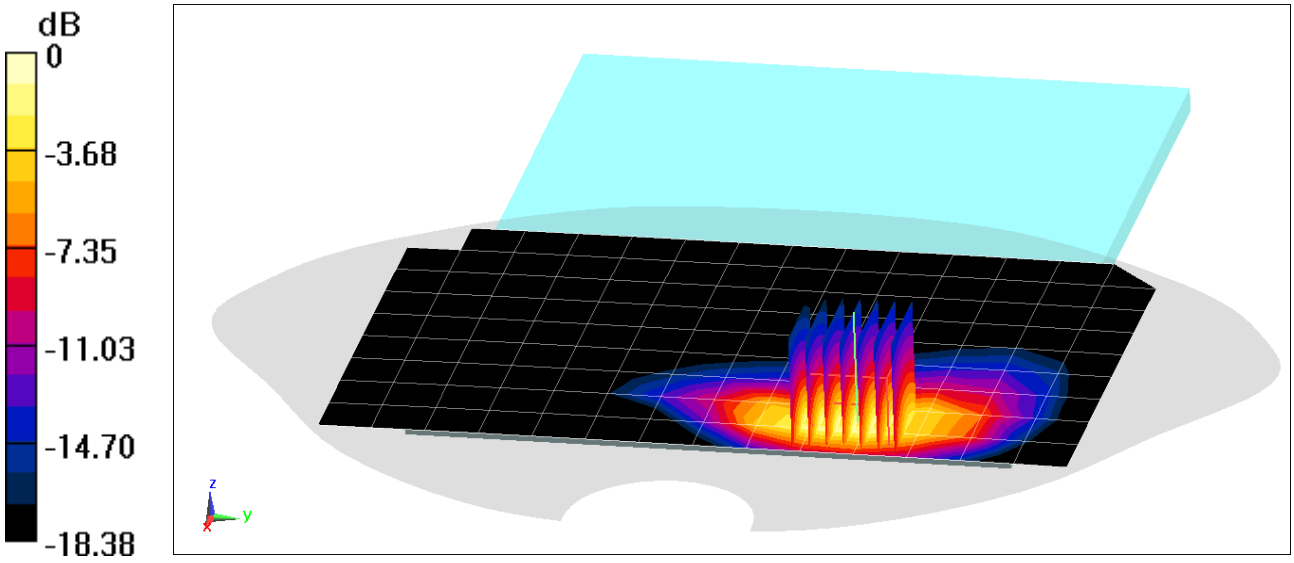
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 782 MHz; σ = 0.977 S/m; ε_r = 56.668; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06/07/2021; Ambient Temp: 23.4°C; Tissue Temp: 23.1°C

Probe: EX3DV4 - SN7640; ConvF(11.2, 11.2, 11.2) @ 782 MHz; Calibrated: 3/3/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1645; Calibrated: 1/11/2021
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 2034
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 13 Antenna C, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (10x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.8mm, dy=4.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 31.64 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 2.46 W/kg
SAR(1 g) = 0.910 W/kg; SAR(10 g) = 0.457 W/kg
Smallest distance from peaks to all points 3 dB below = 5.8 mm
Ratio of SAR at M2 to SAR at M1 = 73.4%



0 dB = 1.59 W/kg = 2.01 dBW/kg

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: HFNJXWW2F0

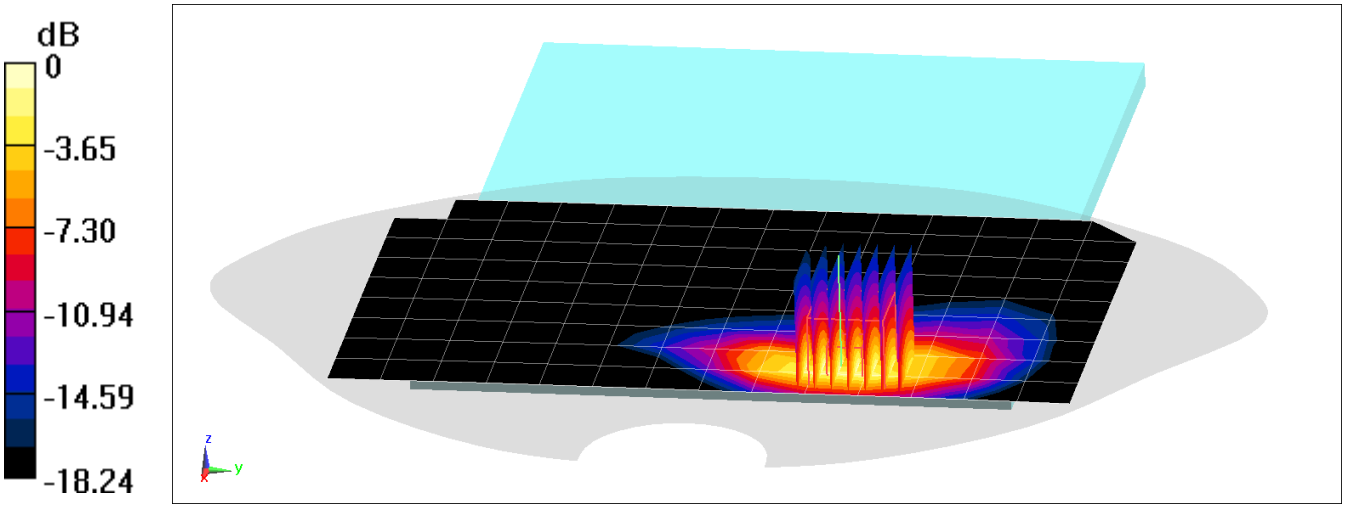
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 793 MHz; σ = 0.987 S/m; ε_r = 56.568; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06/07/2021; Ambient Temp: 23.4°C; Tissue Temp: 23.1°C

Probe: EX3DV4 - SN7640; ConvF(11.2, 11.2, 11.2) @ 793 MHz; Calibrated: 3/3/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1645; Calibrated: 1/11/2021
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 2034
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 14 Antenna C, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

Area Scan (10x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.8mm, dy=4.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 30.55 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 2.47 W/kg
SAR(1 g) = 0.875 W/kg; SAR(10 g) = 0.435 W/kg
Smallest distance from peaks to all points 3 dB below = 5.8 mm
Ratio of SAR at M2 to SAR at M1 = 71.1%



0 dB = 1.55 W/kg = 1.90 dBW/kg

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: L3V41WNWF9

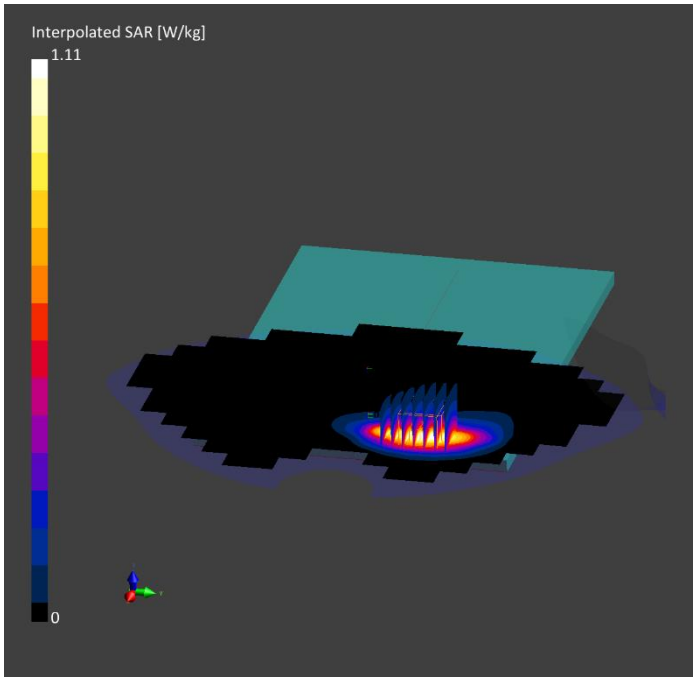
Communication System: UID:10175-CAG, LTE-FDD; MAIA: Y; Frequency: 831.5 MHz
Medium: 835 Body; Medium parameters used:
f = 831.5 MHz; cond = 0.99 S/m; perm = 55.1; density = 1000 kg/m3
Phantom Section: Flat; Space: 0.00 mm

Test Date: 06/04/2021; Ambient Temp: 22.6°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7416; ConvF:(9.66,9.66,9.66); Calibrated: 2021-05-18
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn701; Calibrated: 2021-05-11
Phantom: Twin-SAM V4.0; Serial: 1357
Measurement SW: cDASY6 Module SAR V6.14.0.959

Mode: LTE Band 26 Antenna C, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (210.0 x 300.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=6.0mm, dy=6.0mm, dz=1.5mm; Graded Ratio: 1.5
Reference Value = 1.30 W/kg; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 1.10 W/kg; SAR(10 g) = 0.543 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 71.0 %



PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: TQQ23LGF72

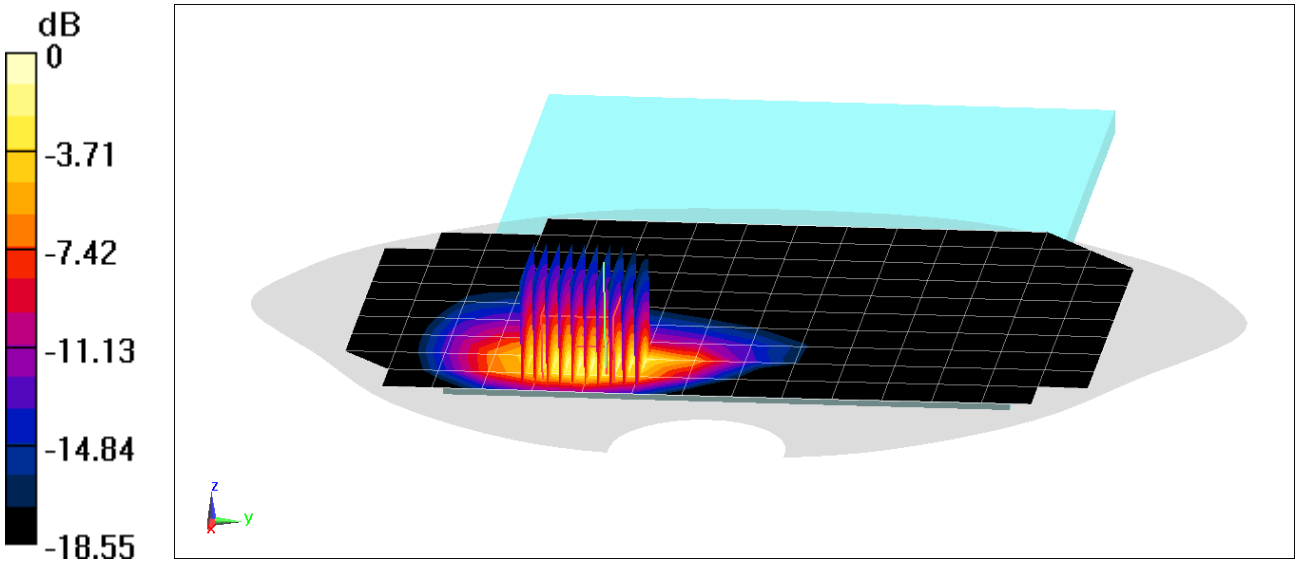
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.985 S/m; ε_r = 53.774; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 07/21/2021; Ambient Temp: 20.8°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3949; ConvF(10.26, 10.26, 10.26) @ 836.5 MHz; Calibrated: 8/19/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 8/13/2020
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 5 (Cell.) Antenna D, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

Area Scan (11x16x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 32.54 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 2.79 W/kg
SAR(1 g) = 0.975 W/kg; SAR(10 g) = 0.488 W/kg
Smallest distance from peaks to all points 3 dB below = 6.8 mm
Ratio of SAR at M2 to SAR at M1 = 71.4%



0 dB = 1.78 W/kg = 2.51 dBW/kg

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: TQQ23LGF72

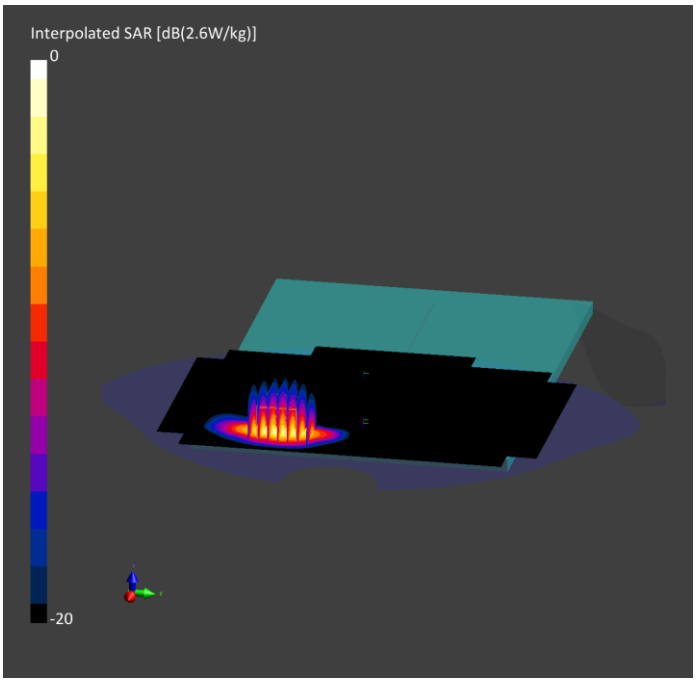
Communication System: UID:10169-CAE, LTE-FDD; MAIA: Y; Frequency: 1770.0 MHz
Medium: 1750 Body; Medium parameters used:
f = 1770.0 MHz; cond = 1.53 S/m; perm = 53.9; density = 1000 kg/m3
Phantom Section: Flat; Space: 0.00 mm

Test Date: 06/03/2021; Ambient Temp: 22.0°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7638; ConvF:(9.08,9.08,9.08); Calibrated: 2021-03-03
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1644; Calibrated: 2021-01-11
Phantom: Twin-SAM V8.0; Serial: 2027
Measurement SW: cDASY6 Module SAR V6.14.0.959

Mode: LTE Band 66 (AWS) Antenna D, Body SAR, Back side, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (210.0 x 300.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=5.4mm, dy=5.4mm, dz=1.5mm; Graded Ratio: 1.5
Reference Value = 1.43 W/kg; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 2.60 W/kg
SAR(1 g) = 1.10 W/kg; SAR(10 g) = 0.481 W/kg
Smallest distance from peaks to all points 3 dB below = 6.5 mm
Ratio of SAR at M2 to SAR at M1 = 75.9 %



PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: NXQYPYQ4LN

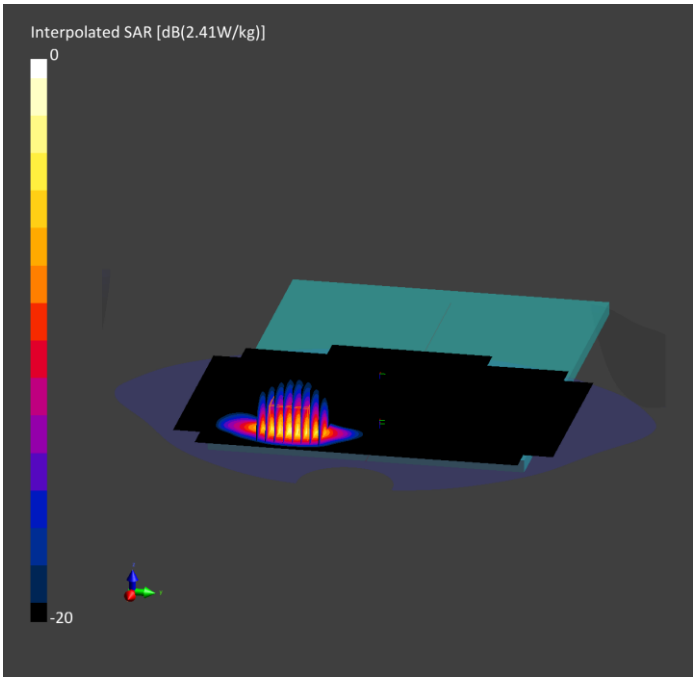
Communication System: UID:10169-CAE, LTE-FDD; MAIA: Y; Frequency: 1905.0 MHz
Medium: 1900 Body; Medium parameters used:
f = 1905.0 MHz; cond = 1.56 S/m; perm = 52.1; density = 1000 kg/m3
Phantom Section: Flat; Space: 0.00 mm

Test Date: 06/07/2021; Ambient Temp: 23.0°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3837; ConvF:(7.53,7.53,7.53); Calibrated: 2021-01-18
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn793; Calibrated: 2021-01-13
Phantom: Twin-SAM V5.0 Main; Serial: 1736
Measurement SW: cDASY6 Module SAR V6.14.0.959

Mode: LTE Band 25 Antenna D, Body SAR, Back side, High .ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (210.0 x 300.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=4.9mm, dy=4.9mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 1.40 W/kg; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.41 W/kg
SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.429 W/kg
Smallest distance from peaks to all points 3 dB below = 6.9 mm
Ratio of SAR at M2 to SAR at M1 = 76.3 %



PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: L3V41WNWF9

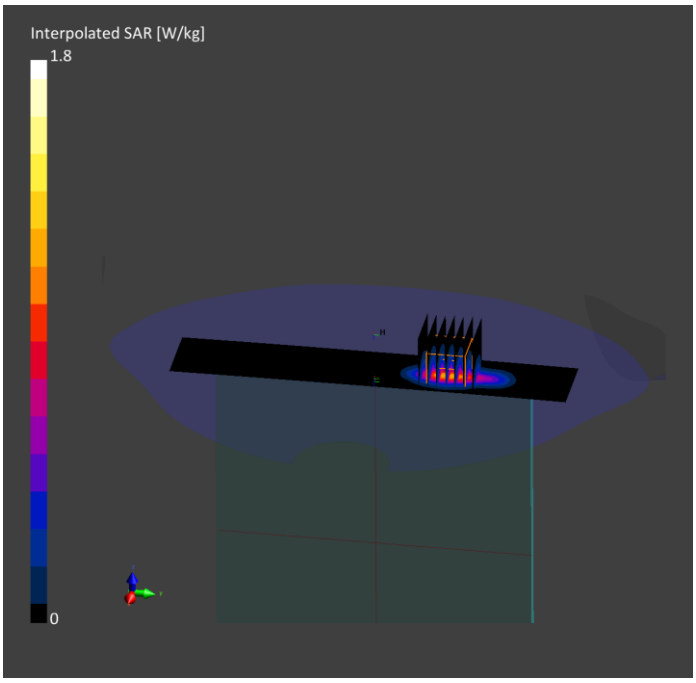
Communication System: UID:10175-CAG, LTE-FDD; MAIA: Y; Frequency: 2310.0 MHz
Medium: 2300 Body; Medium parameters used:
f = 2310.0 MHz; cond = 1.87 S/m; perm = 51.5; density = 1000 kg/m3
Phantom Section: Flat; Space: 0.00 mm

Test Date: 07/29/2021; Ambient Temp: 21.8°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7532; ConvF:(7.59,7.59,7.59); Calibrated: 2021-04-19
Sensor-Surface: 1.4mm (All points)
Electronics: DAE4 Sn501; Calibrated: 2021-04-13
Phantom: Twin-SAM V4.0; Serial: 1275
Measurement SW: cDASY6 Module SAR V6.14.0.959

Mode: LTE Band 30 Antenna C, Body SAR, Top Edge, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (40.0 x 220.0): Measurement grid: dx=5.0 mm, dy=10.0 mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=5.0 mm, dy=5.0 mm, dz=1.5 mm; Graded Ratio: 1.5
Reference Value = 1.12 W/kg; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.80 W/kg
SAR(1 g) = 0.831 W/kg; SAR(10 g) = 0.374 W/kg
Smallest distance from peaks to all points 3 dB below is 7.3 mm
Ratio of SAR at M2 to SAR at M1 = 78.4 %



PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: HFNJXWW2F0

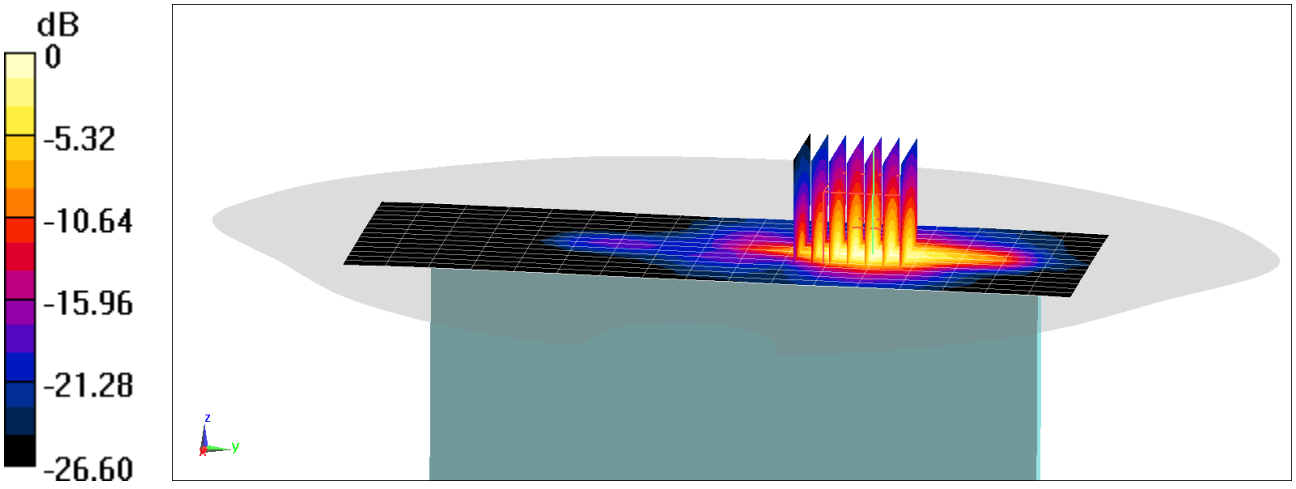
Communication System: UID 0, LTE Band 7; Frequency: 2535 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2535 MHz; σ = 2.126 S/m; ε_r = 51.431; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06/03/2021; Ambient Temp: 23.1°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7427; ConvF(7.12, 7.12, 7.12) @ 2535 MHz; Calibrated: 2/17/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1403; Calibrated: 2/11/2021
Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 7 Antenna C, Body SAR, Top Edge, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (15x18x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.88 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 2.50 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.463 W/kg
Smallest distance from peaks to all points 3 dB below = 7 mm
Ratio of SAR at M2 to SAR at M1 = 44.6%



0 dB = 1.95 W/kg = 2.90 dBW/kg

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: HFNJXWW2F0

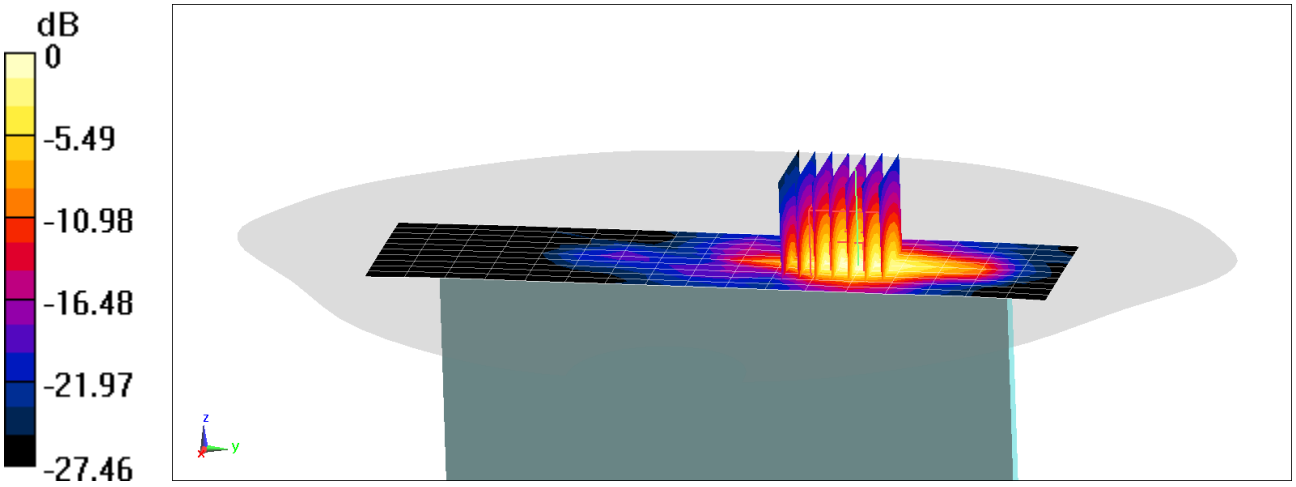
Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2593 MHz; Duty Cycle: 1:1.58
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2593 MHz; σ = 2.208 S/m; ε_r = 51.193; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06/03/2021; Ambient Temp: 23.1°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7427; ConvF(7.12, 7.12, 7.12) @ 2593 MHz; Calibrated: 2/17/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1403; Calibrated: 2/11/2021
Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 41 Antenna C, Body SAR, Top Edge, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.88 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.38 W/kg
SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.421 W/kg
Smallest distance from peaks to all points 3 dB below = 7.1 mm
Ratio of SAR at M2 to SAR at M1 = 43.4%



0 dB = 1.83 W/kg = 2.62 dBW/kg

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: M934V20N1X

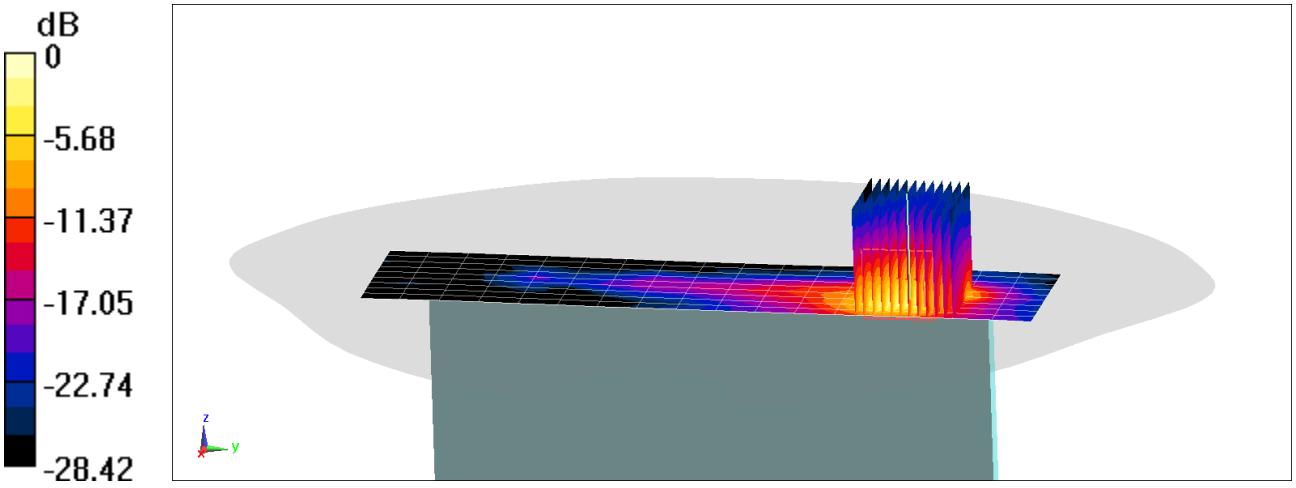
Communication System: UID 0, 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2412 MHz; σ = 1.944 S/m; ε_r = 51.929; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06/07/2021; Ambient Temp: 23.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7427; ConvF(7.44, 7.44, 7.44) @ 2412 MHz; Calibrated: 2/17/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1403; Calibrated: 2/11/2021
Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11b Antenna A Variant 2, 22 MHz Bandwidth, Body SAR, Ch 1, 1 Mbps, Bottom Edge

Area Scan (10x18x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (12x12x8)/Cube 0: Measurement grid: dx=2.7mm, dy=2.7mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 22.33 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 2.39 W/kg
SAR(1 g) = 0.743 W/kg; SAR(10 g) = 0.245 W/kg
Smallest distance from peaks to all points 3 dB below = 4.8 mm
Ratio of SAR at M2 to SAR at M1 = 72.0%



0 dB = 1.61 W/kg = 2.07 dBW/kg

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: TQQ23LGF72

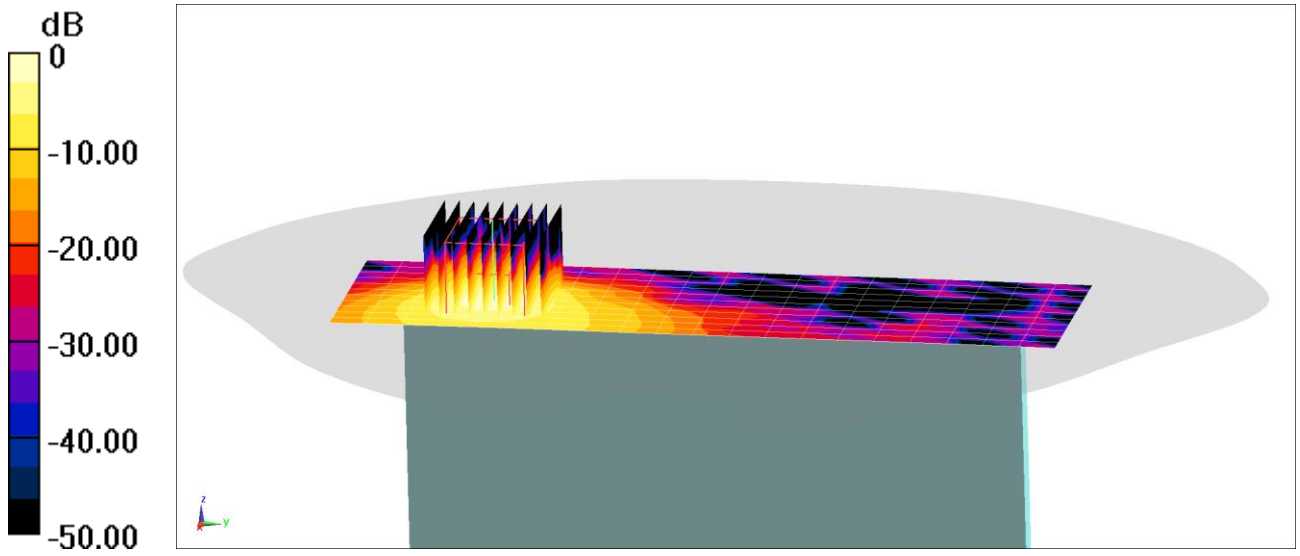
Communication System: UID 0, IEEE 802.11n (0); Frequency: 5270 MHz; Duty Cycle: 1:1
Medium: 5GHz Body Medium parameters used:
f = 5270 MHz; σ = 5.445 S/m; ε_r = 47.475; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 07/28/2021; Ambient Temp: 24.1°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7638; ConvF(4.76, 4.76, 4.76) @ 5270 MHz; Calibrated: 3/3/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1644; Calibrated: 1/11/2021
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 2027
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11n, U-NII-2A Antenna B Variant 2, 40 MHz Bandwidth, Body SAR, Ch 54, 13.5 Mbps, Bottom Edge

Area Scan (12x21x1): Measurement grid: dx=5mm, dy=10mm
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 14.07 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 3.74 W/kg
SAR(1 g) = 0.922 W/kg; SAR(10 g) = 0.304 W/kg
Smallest distance from peaks to all points 3 dB below = 6.4 mm
Ratio of SAR at M2 to SAR at M1 = 64.9%



0 dB = 2.19 W/kg = 3.40 dBW/kg

PCTEST

DUT: BCGA2603; Type: Tablet Device; Serial: M934V20N1X

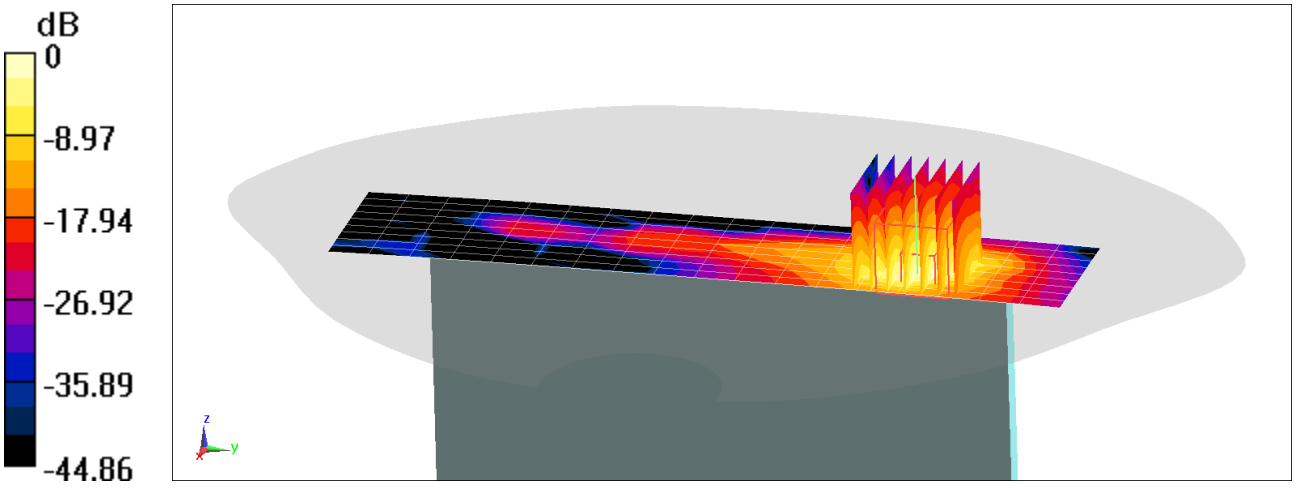
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.29539
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2441 MHz; σ = 2.023 S/m; ε_r = 52.436; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06/13/2021; Ambient Temp: 23.1°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7532; ConvF(7.64, 7.64, 7.64) @ 2441 MHz; Calibrated: 4/19/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn501; Calibrated: 4/13/2021
Phantom: Twin-SAM V5.0 Left; Type: QD 000 P40 CD; Serial: 1793
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Bluetooth Antenna A Variant 2, Body SAR, Ch 39, 1 Mbps, Bottom Edge

Area Scan (10x19x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.12 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 2.33 W/kg
SAR(1 g) = 0.755 W/kg; SAR(10 g) = 0.247 W/kg
Smallest distance from peaks to all points 3 dB below > 5 mm
Ratio of SAR at M2 to SAR at M1 = 35.5%



0 dB = 1.58 W/kg = 1.99 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1057

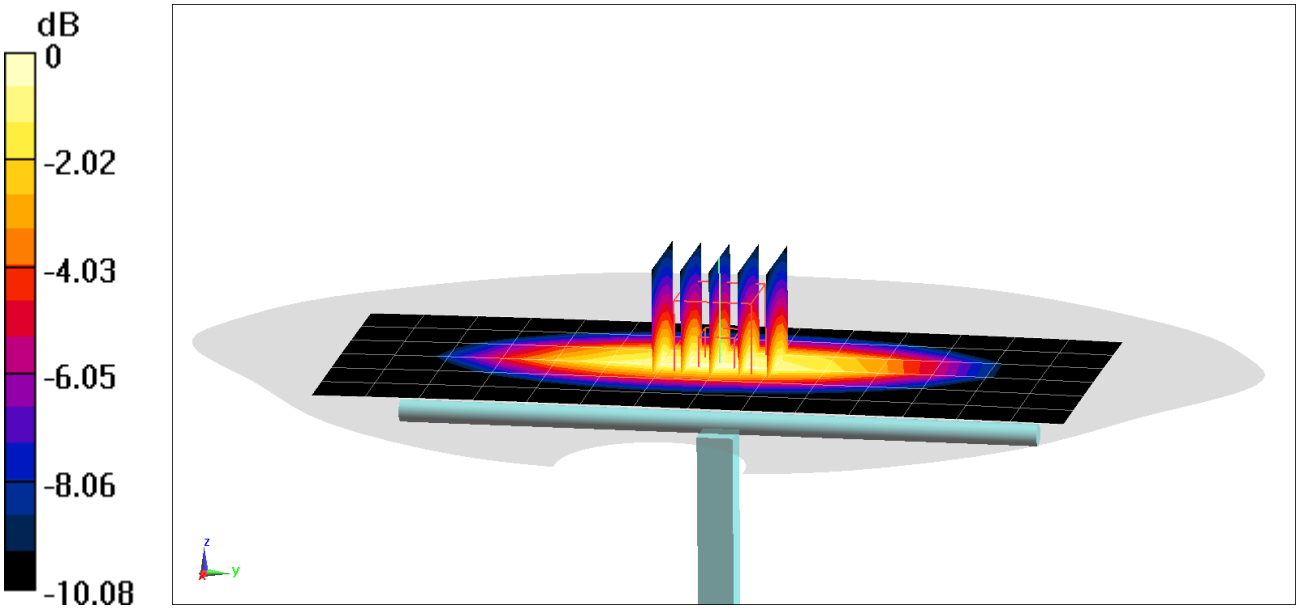
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used:
f = 750 MHz; σ = 0.948 S/m; ε_r = 56.938; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06/07/2021; Ambient Temp: 23.4°C; Tissue Temp: 23.1°C

Probe: EX3DV4 - SN7640; ConvF(11.2, 11.2, 11.2) @ 750 MHz; Calibrated: 3/3/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1645; Calibrated: 1/11/2021
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 2034
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.73 W/kg
SAR(1 g) = 1.79 W/kg; SAR(10 g) = 1.2 W/kg
Deviation(1 g) = 3.59%



0 dB = 2.40 W/kg = 3.80 dBW/kg

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1097

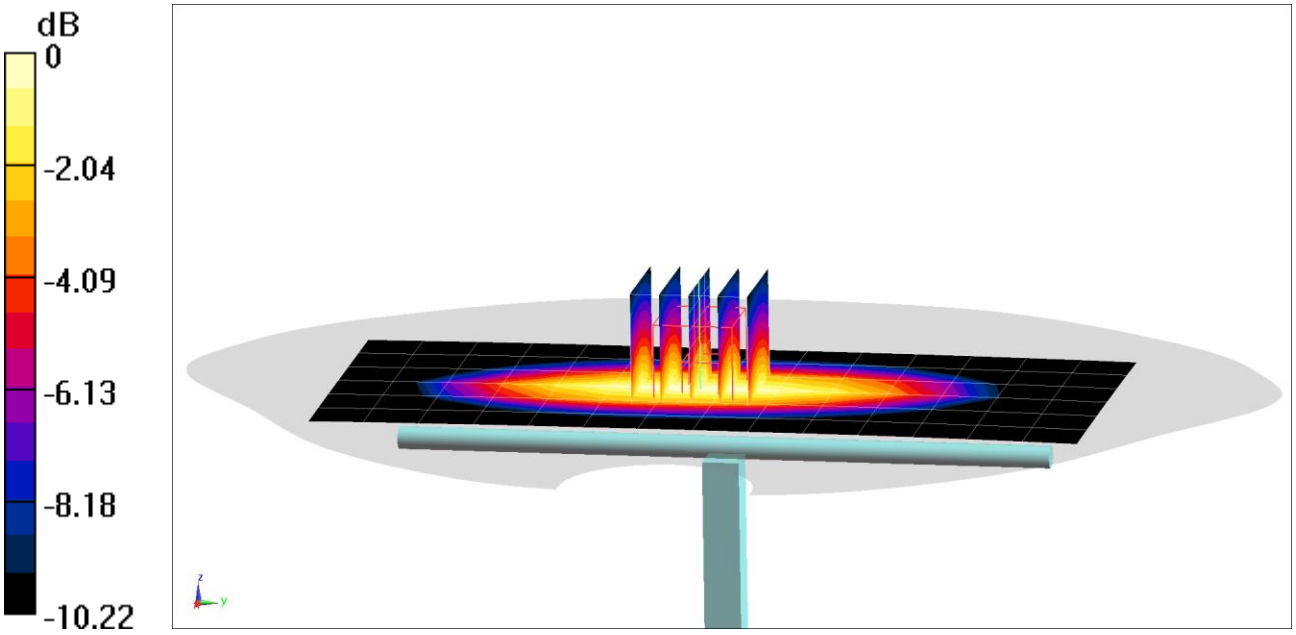
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used:
f = 750 MHz; σ = 0.94 S/m; ε_r = 52.95; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06/11/2021; Ambient Temp: 23.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7532; ConvF(10.44, 10.44, 10.44) @ 750 MHz; Calibrated: 4/19/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn501; Calibrated: 4/13/2021
Phantom: Twin-SAM V5.0 Left; Type: QD 000 P40 CD; Serial: 1793
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.62 W/kg
SAR(1 g) = 1.73 W/kg; SAR(10 g) = 1.15 W/kg
Deviation(1 g) = 2.85%



0 dB = 2.31 W/kg = 3.64 dBW/kg

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1097

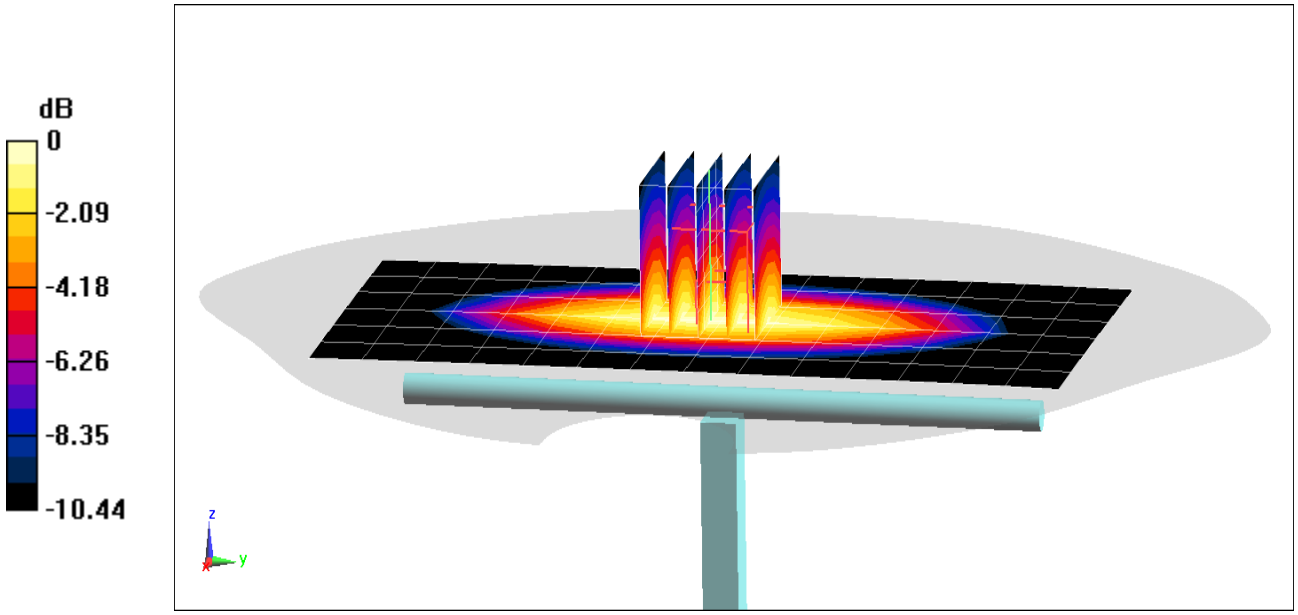
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used:
f = 750 MHz; σ = 0.996 S/m; ε_r = 53.437; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06/13/2021; Ambient Temp: 23.4°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN7639; ConvF(10.66, 10.66, 10.66) @ 750 MHz; Calibrated: 3/3/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1646; Calibrated: 1/11/2021
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 2129
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.74 W/kg
SAR(1 g) = 1.79 W/kg; SAR(10 g) = 1.18 W/kg
Deviation(1 g) = 6.42%



0 dB = 2.41 W/kg = 3.82 dBW/kg

PCTEST

DUT: Dipole 850.0 MHz; Type: D850V2 - SN1010

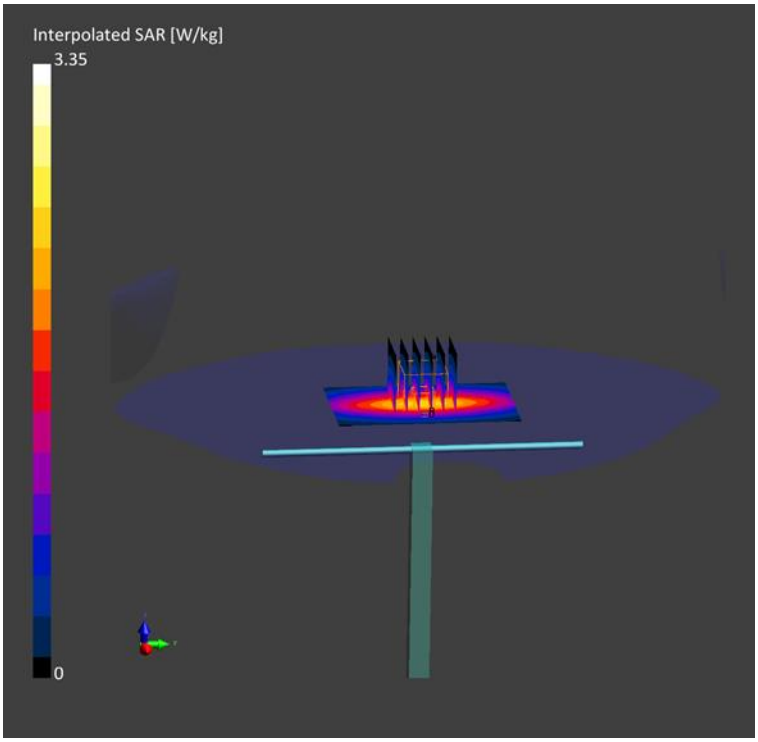
Communication System: UID: 0, CW; Frequency: 850.0 MHz
Medium: 835 Body; Medium parameters used:
f = 850.0 MHz; Cond = 1.00 S/m; perm = 54.9; density = 1000 kg/m3
Phantom Section: Flat; Space: 15 mm

Test Date: 06/04/2021; Ambient Temp: 22.6°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7416; ConvF:(9.66,9.66,9.66); Calibrated: 2021-05-18
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn701; Calibrated: 2021-05-11
Phantom: Twin-SAM V4.0; Serial: 1357
Measurement SW: cDASY6 Module SAR V6.14.0.959

850.0 MHz System Verification at 23.0 dBm

Area Scan (60.0 x 90.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=6.0mm, dy=6.0mm, dz=1.5mm; Graded Ratio: 1.5
Peak SAR (extrapolated) = 3.35 W/kg
SAR (1 g) = 2.14 W/kg; SAR (10 g) = 1.40 W/kg
Deviation (1 g) = 7.32%



PCTEST

DUT: Dipole 850.0 MHz; Type: D850V2 - SN1010

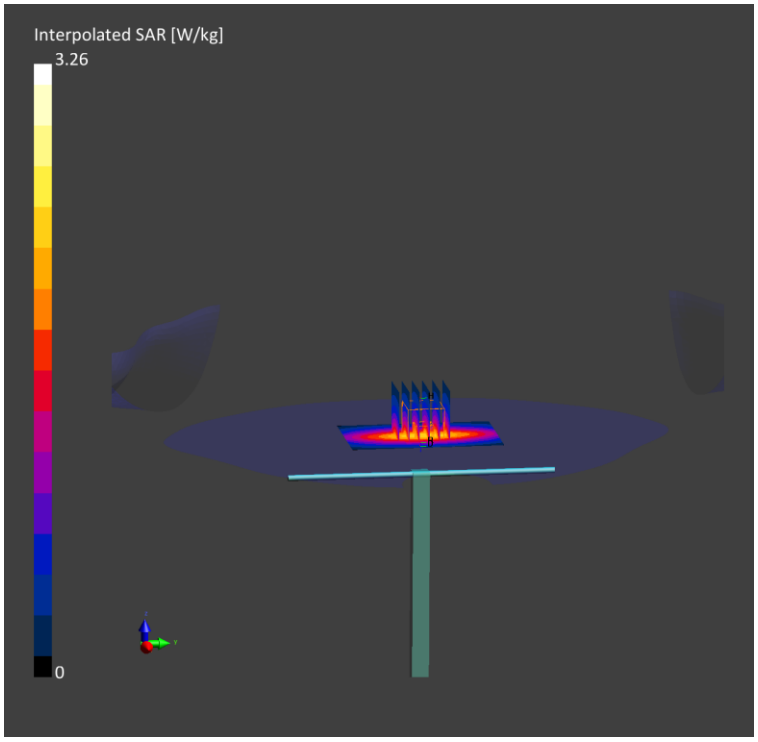
Communication System: UID: 0, CW; Frequency: 850.0 MHz
Medium: 835 Body; Medium parameters used:
f = 850.0 MHz; Cond = 0.98 S/m; perm = 54.3; density = 1000 kg/m3
Phantom Section: Flat; Space: 15 mm

Test Date: 06/07/2021; Ambient Temp: 22.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7416; ConvF:(9.66,9.66,9.66); Calibrated: 2021-05-18
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn701; Calibrated: 2021-05-11
Phantom: Twin-SAM V4.0; Serial: 1357
Measurement SW: cDASY6 Module SAR V6.14.0.959

850.0 MHz System Verification at 23.0 dBm

Area Scan (60.0 x 90.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=6.0mm, dy=6.0mm, dz=1.5mm; Graded Ratio: 1.5
Peak SAR (extrapolated) = 3.26 W/kg
SAR (1 g) = 2.10 W/kg; SAR (10 g) = 1.38 W/kg
Deviation (1 g) = 5.32%



PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d040

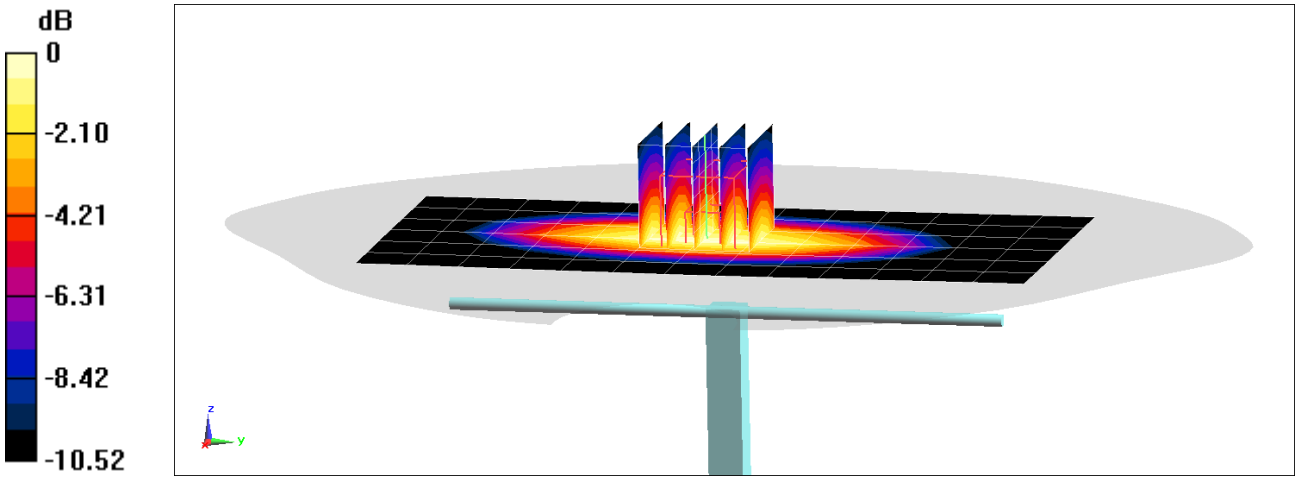
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.984 S/m; ε_r = 53.788; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07/21/2021; Ambient Temp: 20.8°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3949; ConvF(10.26, 10.26, 10.26) @ 835 MHz; Calibrated: 8/19/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 8/13/2020
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.76 W/kg
SAR(1 g) = 1.81 W/kg; SAR(10 g) = 1.19 W/kg
Deviation(1 g) = -5.04%



0 dB = 2.43 W/kg = 3.86 dBW/kg

PCTEST

DUT: Dipole 1750.0 MHz; Type: D1750V2 - SN1083

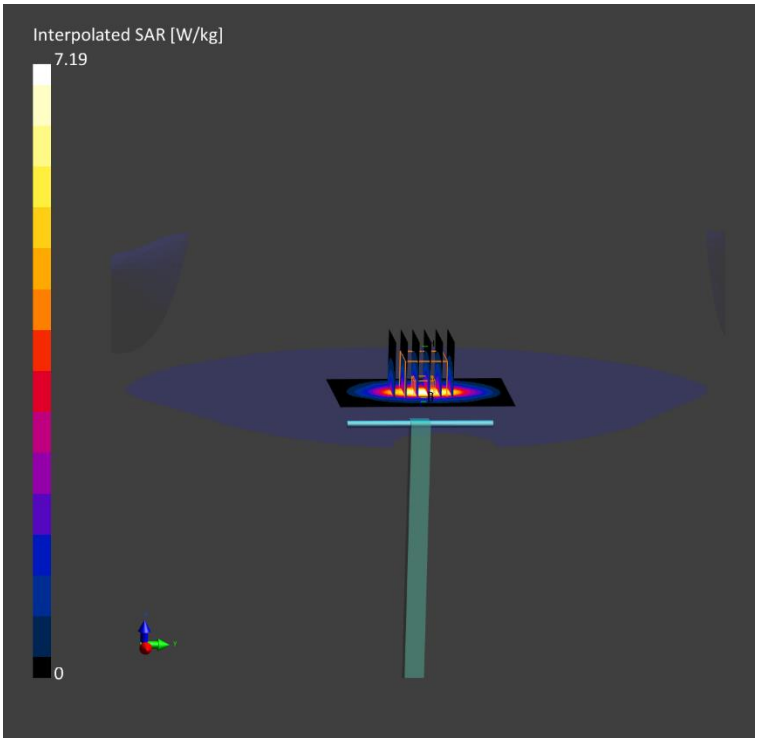
Communication System: UID: 0, CW; Frequency: 1750.0 MHz
Medium: 1750 Body; Medium parameters used:
f = 1750.0 MHz; cond = 1.52 S/m; perm = 53.9; density = 1000 kg/m3
Phantom Section: Flat; Space: 10 mm

Test Date: 06/03/2021; Ambient Temp: 22.0°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7638; ConvF:(9.08,9.08,9.08); Calibrated: 2021-03-03
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1644; Calibrated: 2021-01-11
Phantom: Twin-SAM V8.0; Serial: 2027
Measurement SW: cDASY6 Module SAR V6.14.0.959

1750.0 MHz System Verification at 20.0 dBm

Area Scan (60.0 x 90.0): Measurement grid: dx=15.0 mm, dy=15.0 mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=6.0 mm, dy=6.0 mm, dz=1.5 mm; Graded Ratio: 1.5
Peak SAR (extrapolated) = 7.19 W/kg
SAR(1 g) = 3.73 W/kg; SAR(10 g) = 1.98 W/kg
Deviation (1 g) = 0.54%



PCTEST

DUT: Dipole 1750.0 MHz; Type: D1750V2 - SN1083

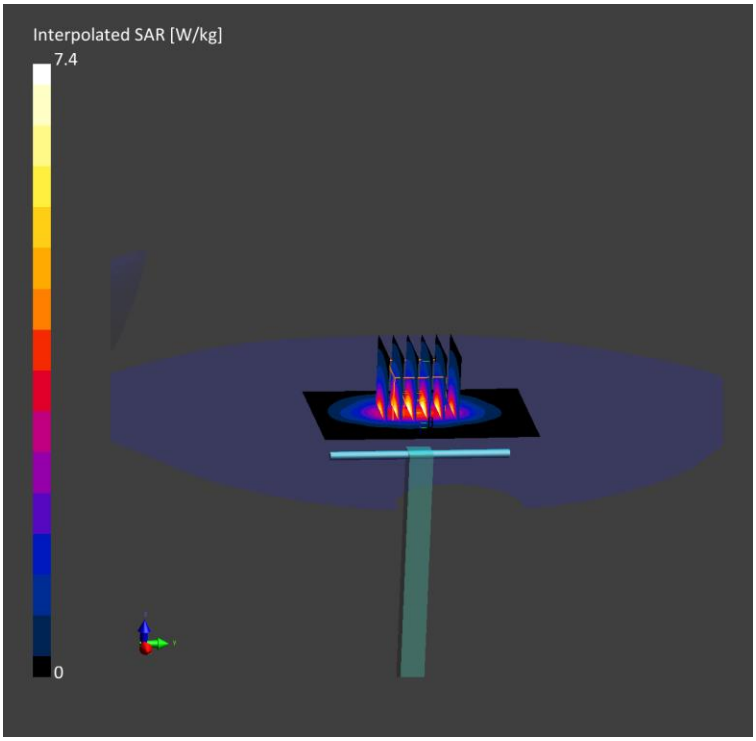
Communication System: UID: 0, CW; Frequency: 1750.0 MHz
Medium: 1750 Body; Medium parameters used:
f = 1750.0 MHz; cond = 1.45 S/m; perm = 51.7; density = 1000 kg/m3
Phantom Section: Flat; Space: 10 mm

Test Date: 06/09/2021; Ambient Temp: 23.2°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN3837; ConvF:(7.74,7.74,7.74); Calibrated: 2021-01-18
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn793; Calibrated: 2021-01-13
Phantom: Twin-SAM V5.0; Serial: 1736
Measurement SW: cDASY6 Module SAR V6.14.0.959

1750.0 MHz System Verification at 20.0 dBm

Area Scan (60.0 x 90.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=6.0mm, dy=6.0mm, dz=1.5mm; Graded Ratio: 1.5
Peak SAR (extrapolated) = 7.40 W/kg
SAR(1 g) = 3.80 W/kg; SAR(10 g) = 2.02 W/kg
Deviation (1 g) = 2.43%



PCTEST

DUT: Dipole 1900.0 MHz; Type: D1900V2 - SN5d030

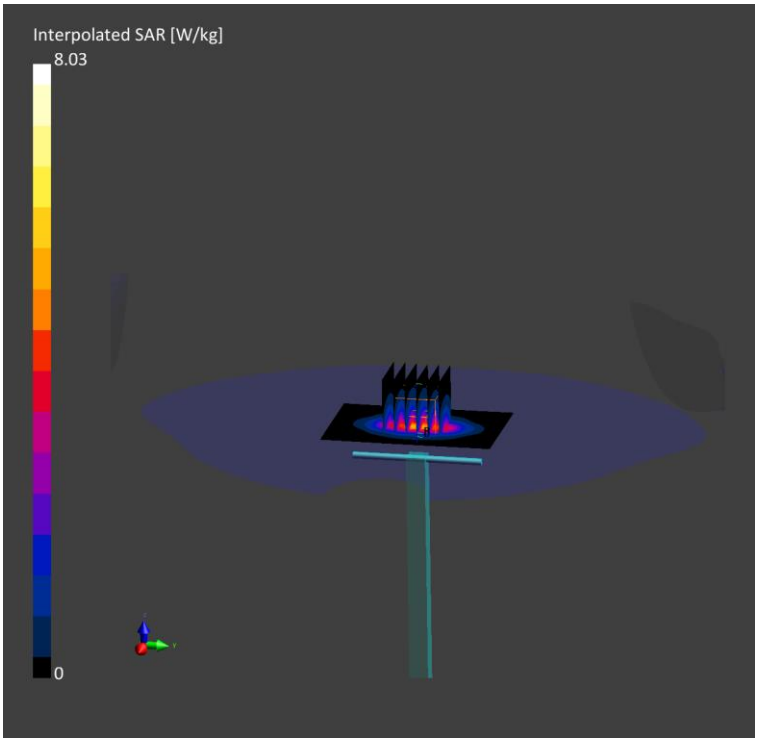
Communication System: UID: 0, CW; Frequency: 1900.0 MHz
Medium: 1900 Body; Medium parameters used:
f = 1900.0 MHz; cond = 1.55 S/m; perm = 52.1; density = 1000 kg/m3
Phantom Section: Flat; Space: 10 mm

Test Date: 06/07/2021; Ambient Temp: 23.0°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3837; ConvF:(7.53,7.53,7.53); Calibrated: 2021-01-18
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn793; Calibrated: 2021-01-13
Phantom: Twin-SAM V5.0; Serial: 1736
Measurement SW: cDASY6 Module SAR V6.14.0.959

1900.0 MHz System Verification at 20.0 dBm

Area Scan (60.0 x 90.0): Measurement grid: dx=15.0mm, dy=15.0mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=6.0mm, dy=6.0mm, dz=1.5mm; Graded Ratio: 1.5
Peak SAR (extrapolated) = 8.03 W/kg
SAR(1 g) = 4.19 W/kg; SAR(10 g) = 2.16 W/kg
Deviation (1 g) = 5.01%



PCTEST

DUT: Dipole 2300.0 MHz; Type: D2300V2 - SN1064

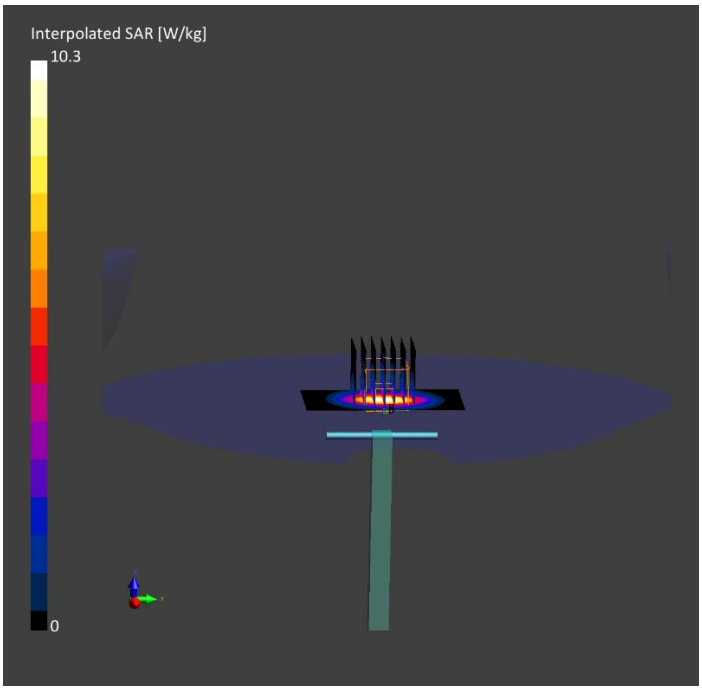
Communication System: UID: 0, CW; Frequency: 2300.0 MHz
Medium: 2300 Body; Medium parameters used:
f = 2300.0 MHz; cond = 1.86 S/m; perm = 51.6; density = 1000 kg/m3
Phantom Section: Flat; Space: 10 mm

Test Date: 07/29/2021; Ambient Temp: 21.8°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7532; ConvF:(7.59,7.59,7.59); Calibrated: 2021-04-19
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn501; Calibrated: 2021-04-13
Phantom: Twin-SAM V4.0; Serial: 1275
Measurement SW: cDASY6 Module SAR V6.14.0.959

2300.0 MHz System Verification at 20.0 dBm

Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm
Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=5.0 mm, dy=5.0 mm, dz=1.5 mm; Graded Ratio: 1.5
Peak SAR (extrapolated) = 10.3 W/kg
SAR(1 g) = 5.20 W/kg; SAR(10 g) = 2.48 W/kg
Deviation (1 g) = 7.44%



PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 750

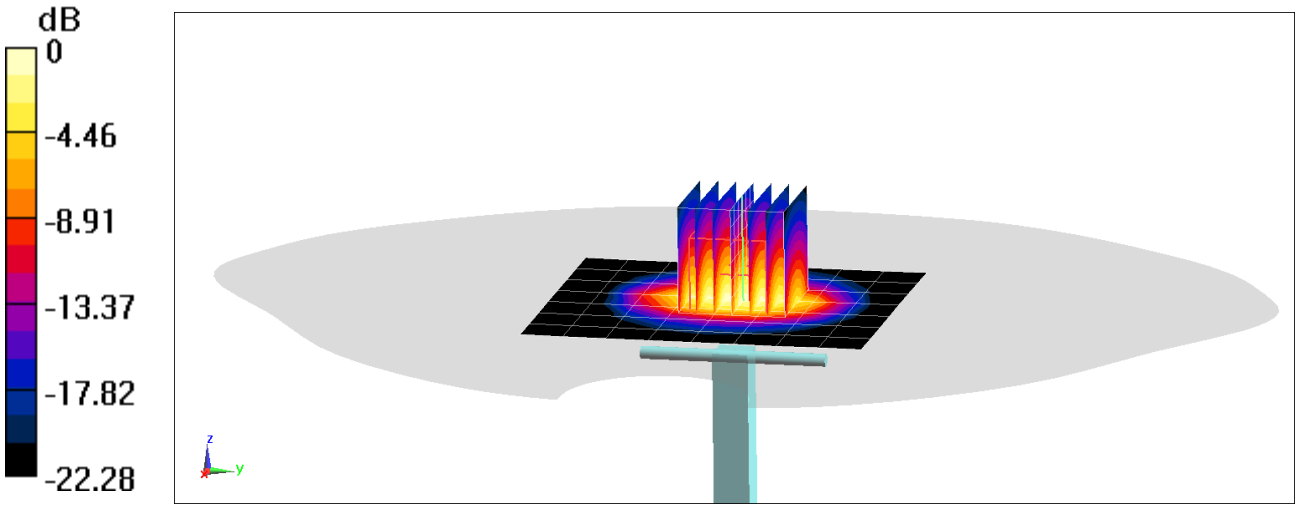
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 2.009 S/m; ε_r = 51.759; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06/03/2021; Ambient Temp: 23.1°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7427; ConvF(7.44, 7.44, 7.44) @ 2450 MHz; Calibrated: 2/17/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1403; Calibrated: 2/11/2021
Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.1 W/kg
SAR(1 g) = 5.36 W/kg; SAR(10 g) = 2.46 W/kg
Deviation(1 g) =5.10%



0 dB = 8.93 W/kg = 9.51 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 750

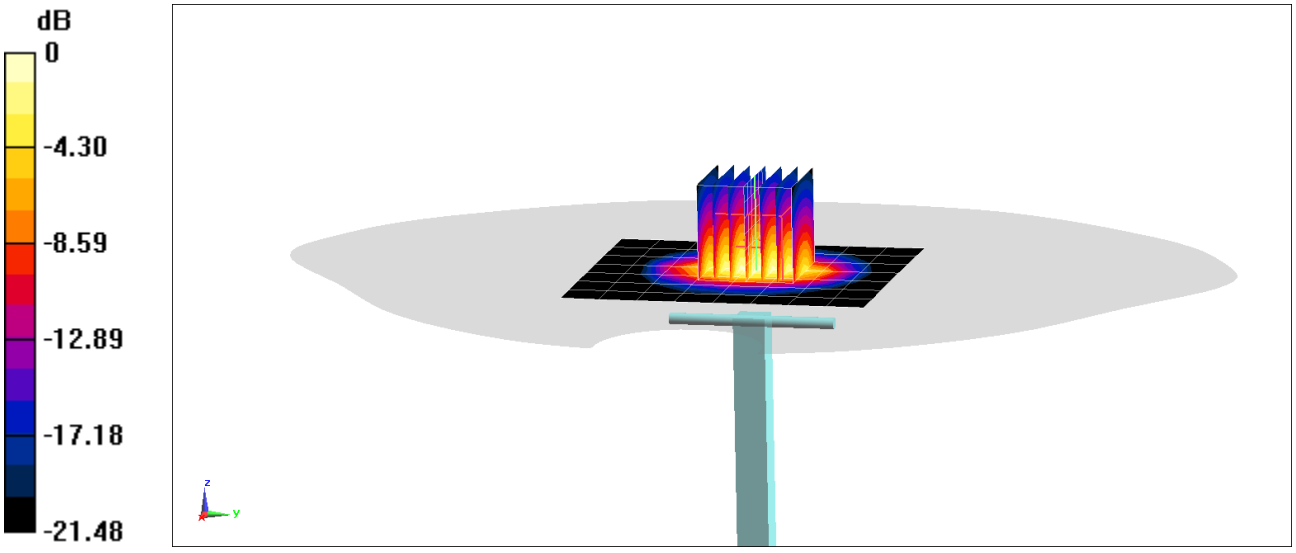
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used
f = 2450 MHz; σ = 1.997 S/m; ε_r = 51.798; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06/07/2021; Ambient Temp: 23.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7427; ConvF(7.44, 7.44, 7.44) @ 2450 MHz; Calibrated: 2/17/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1403; Calibrated: 2/11/2021
Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.3 W/kg
SAR(1 g) = 5.43 W/kg; SAR(10 g) = 2.5 W/kg
Deviation(1 g) = 6.47%



0 dB = 9.13 W/kg = 9.60 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 750

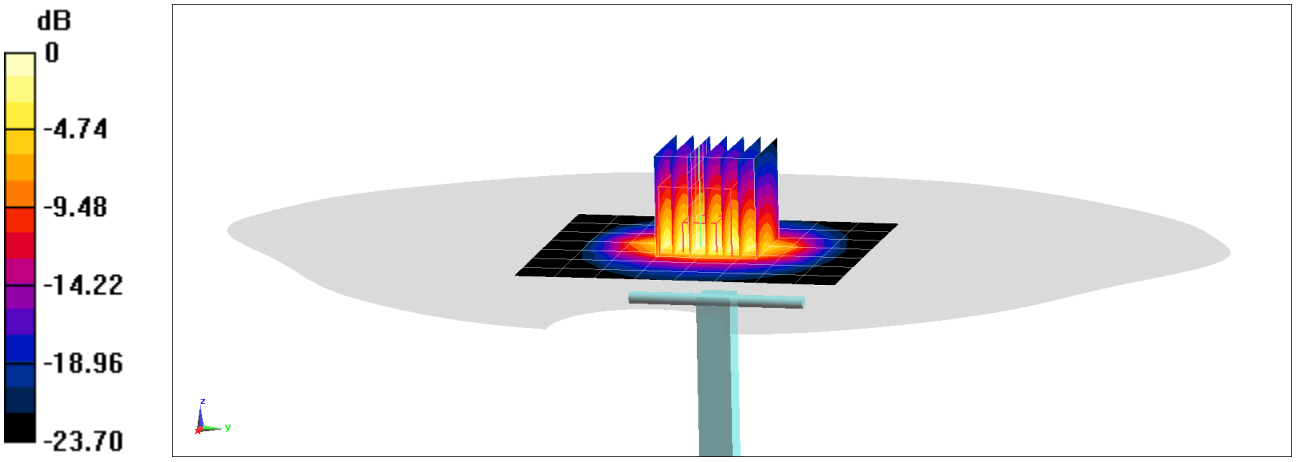
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 2.031 S/m; ε_r = 52.424; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06/13/2021; Ambient Temp: 23.1°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7532; ConvF(7.64, 7.64, 7.64) @ 2450 MHz; Calibrated: 4/19/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn501; Calibrated: 4/13/2021
Phantom: Twin-SAM V5.0 Left; Type: QD 000 P40 CD; Serial: 1793
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 5.11 W/kg; SAR(10 g) = 2.3 W/kg
Deviation(1 g) = 0.20%



0 dB = 8.47 W/kg = 9.28 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1042

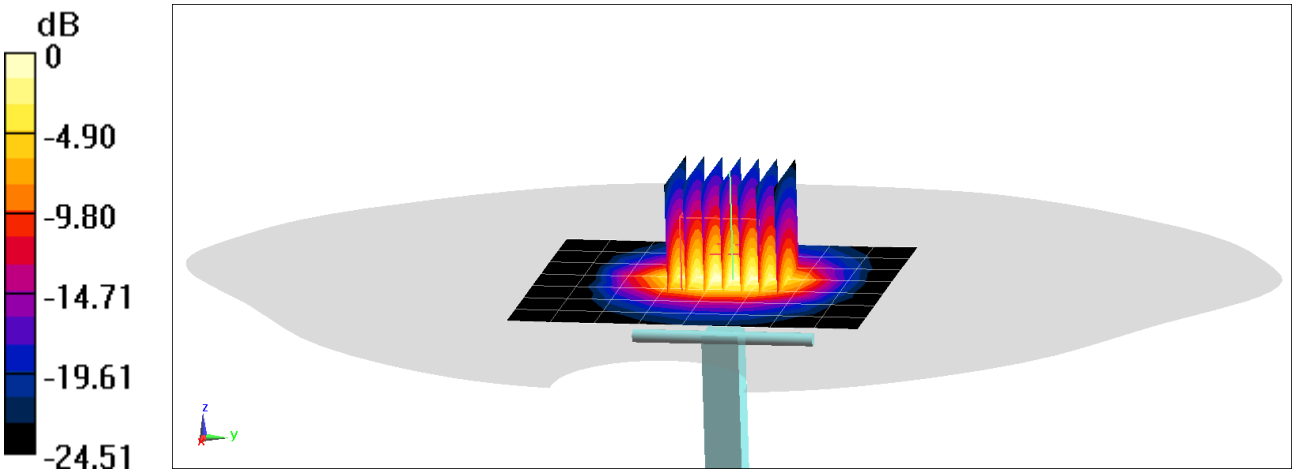
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2600 MHz; σ = 2.218 S/m; ε_r = 51.164; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06/03/2021; Ambient Temp: 23.1°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7427; ConvF(7.12, 7.12, 7.12) @ 2600 MHz; Calibrated: 2/17/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1403; Calibrated: 2/11/2021
Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.9 W/kg
SAR(1 g) = 5.71 W/kg; SAR(10 g) = 2.47 W/kg
Deviation(1 g) = 3.44%



0 dB = 9.98 W/kg = 9.99 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1123

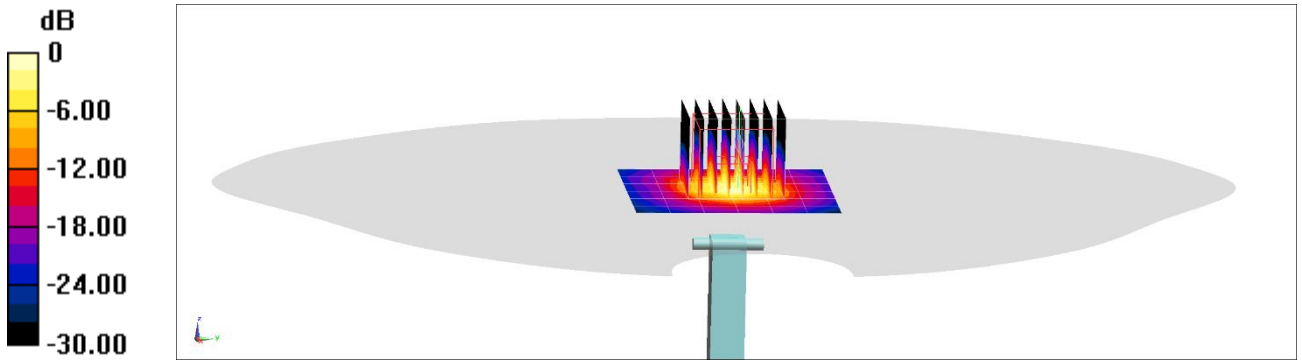
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
5GHz Body Medium parameters used:
f = 5250 MHz; σ = 5.415 S/m; ε_r = 47.511; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07/28/2021; Ambient Temp: 24.1°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7638; ConvF(4.76, 4.76, 4.76) @ 5250 MHz; Calibrated: 3/3/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1644; Calibrated: 1/11/2021
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 2027
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 15.5 W/kg
SAR(1 g) = 3.79 W/kg; SAR(10 g) = 1.05 W/kg
Deviation(1 g) = 3.13%



0 dB = 8.86 W/kg = 9.47 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1123

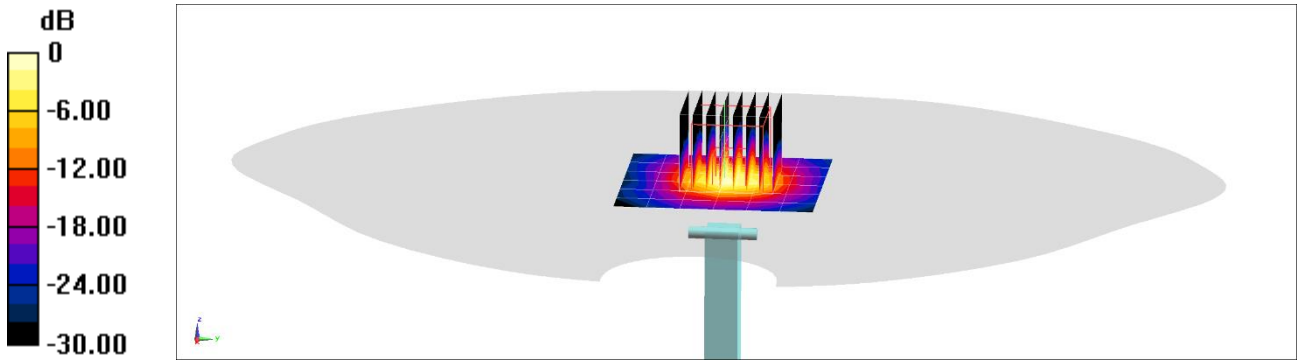
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
5GHz Body Medium parameters used:
f = 5600 MHz; σ = 5.923 S/m; ε_r = 46.873; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07/28/2021; Ambient Temp: 24.1°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7638; ConvF(4.24, 4.24, 4.24) @ 5600 MHz; Calibrated: 3/3/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1644; Calibrated: 1/11/2021
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 2027
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 18.3 W/kg
SAR(1 g) = 4.03 W/kg; SAR(10 g) = 1.12 W/kg
Deviation(1 g) = 4.13%



0 dB = 9.74 W/kg = 9.89 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1123

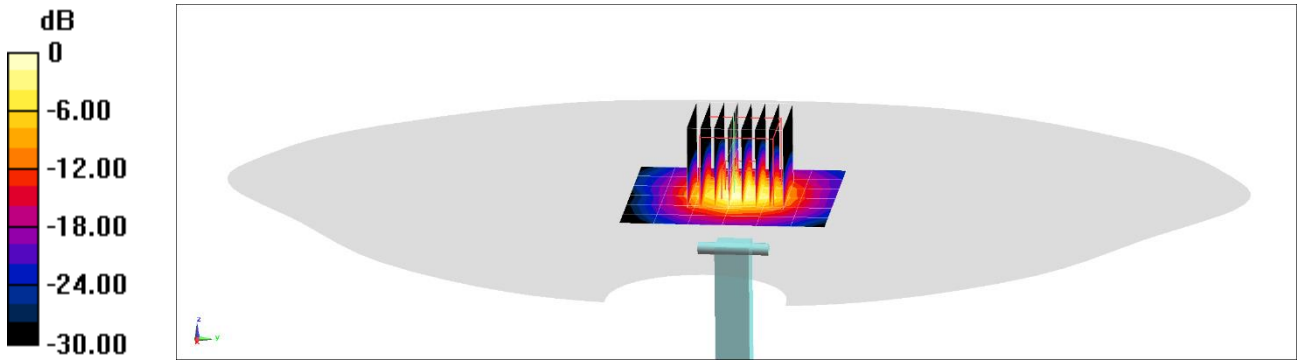
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
5GHz Body Medium parameters used:
f = 5750 MHz; σ = 6.131 S/m; ε_r = 46.555; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07/28/2021; Ambient Temp: 24.1°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7638; ConvF(4.32, 4.32, 4.32) @ 5750 MHz; Calibrated: 3/3/2021
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1644; Calibrated: 1/11/2021
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 2027
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 3.84 W/kg; SAR(10 g) = 1.08 W/kg
Deviation(1 g) = 5.06%



0 dB = 9.63 W/kg = 9.84 dBW/kg

APPENDIX C: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

1) The network analyzer and probe system was configured and calibrated.
2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
3) The complex admittance with respect to the probe aperture was measured
4) The complex relative permittivity ε_r' can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\varepsilon_r\varepsilon_0}{\left[\ln(b/a)\right]^2}\int_a^b\int_a^b\int_0^\pi \cos\phi' \frac{\exp\left[-j\omega r(\mu_0\varepsilon_r'\varepsilon_0)^{1/2}\right]}{r} d\phi' d\rho' d\rho$$

where *Y* is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively, $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$, ω is the angular frequency, and $j = \sqrt{-1}$.

3 Composition / Information on ingredients

3.2 Mixtures
Description: Aqueous solution with surfactants and inhibitors
Declarable, or hazardous components:

CAS: 107-21-1 EINECS: 203-473-3 Reg.nr.: 01-2119456816-28-0000	**Ethanediol** STOT RE 2, H373; Acute Tox. 4, H302	>1.0-4.9%
CAS: 68608-26-4 EINECS: 271-781-5 Reg.nr.: 01-2119527859-22-0000	**Sodium petroleum sulfonate** Eye Irrit. 2, H319	< 2.9%
CAS: 107-41-5 EINECS: 203-489-0 Reg.nr.: 01-2119539582-35-0000	**Hexylene Glycol / 2-Methyl-pentane-2,4-diol** Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.9%
CAS: 68920-66-1 NLP: 500-236-9 Reg.nr.: 01-2119489407-26-0000	**Alkoxylated alcohol, > C_{16}** Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.0%

Additional information:
For the wording of the listed risk phrases refer to section 16.
Not mentioned CAS-, EINECS- or registration numbers are to be regarded as Proprietary/Confidential.
The specific chemical identity and/or exact percentage concentration of proprietary components is withheld as a trade secret.

Figure C-1

Note: Liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 44 245 9700, Fax +41 44 245 9779
info@speag.com, http://www.speag.com

Measurement Certificate / Material Test

Item Name	**Body Tissue Simulating Liquid (MBBL600-6000V6)**
Product No.	SL AAM U16 BC (Batch: 200803-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Target Parameters

Target parameters as defined in the KDB 865664 compliance standard.

Test Condition

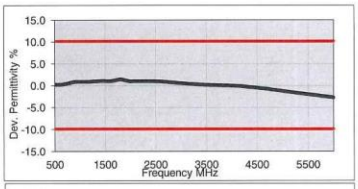
Ambient Condition	22°C ; 30% humidity
TSL Temperature	22°C
Test Date	6-Aug-20
Operator	CL

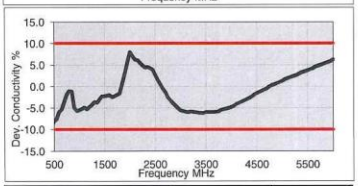
Additional Information

TSL Density
TSL Heat-capacity

Results

	Measured			Target		Diff.to Target [%]	
f [MHz]	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
600	56.3	26.8	0.89	56.1	0.95	0.3	-6.3
750	55.8	22.6	0.94	55.5	0.96	0.5	-2.1
800	55.7	21.6	0.96	55.3	0.97	0.7	-1.0
825	55.7	21.1	0.97	55.2	0.98	0.8	-1.0
835	55.7	20.9	0.98	55.1	0.99	1.0	-0.5
850	55.6	20.7	0.98	55.2	0.99	0.8	-1.0
900	55.5	19.9	1.00	55.0	1.05	0.9	-4.8
1400	54.7	15.9	1.24	54.1	1.28	1.1	-3.1
1450	54.6	15.8	1.27	54.0	1.30	1.1	-2.3
1600	54.4	15.3	1.36	53.8	1.39	1.1	-2.2
1625	54.4	15.3	1.38	53.8	1.41	1.2	-2.1
1640	54.4	15.2	1.39	53.7	1.42	1.3	-2.1
1650	54.3	15.2	1.39	53.7	1.43	1.1	-2.8
1700	54.2	15.1	1.43	53.6	1.46	1.2	-2.1
1750	54.2	15.0	1.46	53.4	1.49	1.4	-2.0
1800	54.1	14.9	1.50	53.3	1.52	1.5	-1.3
1810	54.1	14.9	1.51	53.3	1.52	1.5	-0.7
1825	54.1	14.9	1.52	53.3	1.52	1.5	0.0
1850	54.0	14.9	1.53	53.3	1.52	1.3	0.7
1900	54.0	14.8	1.57	53.3	1.52	1.3	3.3
1950	53.9	14.8	1.60	53.3	1.52	1.1	5.3
2000	53.8	14.8	1.64	53.3	1.52	0.9	7.9
2050	53.8	14.7	1.68	53.2	1.57	1.1	7.0
2100	53.7	14.7	1.72	53.2	1.62	1.0	6.2
2150	53.7	14.7	1.76	53.1	1.66	1.1	6.0
2200	53.6	14.7	1.80	53.0	1.71	1.1	5.3
2250	53.5	14.8	1.85	53.0	1.76	1.0	5.1
2300	53.5	14.8	1.89	52.9	1.81	1.1	4.4
2350	53.4	14.8	1.94	52.8	1.85	1.1	4.9
2400	53.3	14.8	1.98	52.8	1.90	1.0	4.2
2450	53.3	14.9	2.03	52.7	1.95	1.1	4.1
2500	53.2	14.9	2.07	52.6	2.02	1.1	2.5
2550	53.1	15.0	2.12	52.6	2.09	1.0	1.4
2600	53.0	15.0	2.17	52.5	2.16	0.9	0.5





3500	51.4	16.0	3.11	51.3	3.31	0.2	-6.0
3700	51.1	16.2	3.34	51.1	3.55	0.1	-5.9
5200	48.3	18.7	5.42	49.0	5.30	-1.5	2.3
5250	48.2	18.8	5.50	49.0	5.36	-1.6	2.5
5300	48.1	18.9	5.57	48.9	5.42	-1.7	2.8
5500	47.7	19.2	5.86	48.6	5.65	-2.0	3.8
5600	47.5	19.3	6.01	48.5	5.77	-2.1	4.2
5700	47.3	19.4	6.16	48.3	5.88	-2.3	4.8
5800	47.0	19.6	6.32	48.2	6.00	-2.4	5.3
6000	46.6	19.8	6.62	47.9	6.23	-2.7	6.3
6500							
7000							
7500							
8000							
8500							
9000							
9500							
10000							

Figure C-2
600 – 5800 MHz Body Tissue Equivalent Matter

APPENDIX D: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

Table D-1
SAR System Validation Summary – 1g

SAR System	Freq. (MHz)	Date	Probe SN	Probe Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
AM10	750	04/26/2021	7639	750	Body	0.979	54.220	PASS	PASS	PASS	N/A	N/A	N/A
AM2	750	05/06/2021	7532	750	Body	0.963	53.955	PASS	PASS	PASS	N/A	N/A	N/A
AM4B	750	05/06/2021	7640	750	Body	0.986	53.040	PASS	PASS	PASS	N/A	N/A	N/A
AM5	835	10/14/2020	3949	835	Body	1.003	52.970	PASS	PASS	PASS	GMSK	PASS	N/A
AM6	835	06/02/2021	7416	835	Body	0.990	54.000	PASS	PASS	PASS	GMSK	PASS	N/A
AM9	1750	05/18/2021	7638	1750	Body	1.480	53.500	PASS	PASS	PASS	N/A	N/A	N/A
AM1	1750	05/19/2021	3837	1750	Body	1.490	52.100	PASS	PASS	PASS	N/A	N/A	N/A
AM1	1900	06/03/2021	3837	1900	Body	1.568	51.655	PASS	PASS	PASS	GMSK	PASS	N/A
AM2	2300	05/19/2021	7532	2300	Body	1.883	50.995	PASS	PASS	PASS	N/A	N/A	N/A
AM4A	2450	04/07/2021	7427	2450	Body	2.004	51.265	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM2	2450	05/10/2021	7532	2450	Body	2.023	52.100	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM4A	2600	04/07/2021	7427	2600	Body	2.144	51.010	PASS	PASS	PASS	TDD	PASS	N/A
AM9	5250	05/12/2021	7638	5250	Body	5.412	47.566	PASS	PASS	PASS	OFDM	N/A	PASS
AM9	5600	05/13/2021	7638	5600	Body	5.925	46.935	PASS	PASS	PASS	OFDM	N/A	PASS
AM9	5750	05/13/2021	7638	5750	Body	6.129	46.600	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: The probes have been calibrated for both CW and modulated signals. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.

APPENDIX F: DOWNLINK LTE CA RF CONDUCTED POWERS

F.1 LTE Downlink Only Carrier Aggregation Test Reduction Methodology

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number of component carriers (CCs) supported by the product implementation. Per April 2018 TCBC Workshop Notes, the following test reduction methodology was applied to determine the combinations required for conducted power measurements.

LTE DLCA Test Reduction Methodology:

- The supported combinations were arranged by the number of component carriers in columns.
- Any limitations on the PCC or SCC for each combination were identified alongside the combination (e.g. CA_2A-2A-4A-12A, but B12 can only be configured as a SCC).
- Power measurements were performed for "supersets" (LTE CA combinations with multiple components carriers) and any "subsets" (LTE CA combinations with fewer component carriers) that were not completely covered by the supersets.
- Only subsets that have the exact same components as a superset were excluded for measurement.
- When there were certain restrictions on component carriers that existed in the superset that were not applied for the subset, the subset configuration was additionally evaluated.
- Both inter-band and intra-band downlink carrier aggregation scenarios were considered.
- Downlink CA combinations for SISO and 4x4 Downlink MIMO operations were measured independently, per May 2017 TCBC Workshop notes.

Table F-1 – Example of Exclusion Table for SISO Configurations

Index	2CC	Supported Channel Bandwidth [MHz]		Restriction	Completely Covered by Measurement Superset
		CC1	CC2		
DCC #1	CA_2C	5, 10, 15, 20	5, 10, 15, 20		SCC #4
DCC #2	CA_2A-5A	5, 10, 15, 20	5, 10		SCC #1
DCC #3	CA_2A-12A	5, 10, 15, 20	5, 10		SCC #1
DCC #4	CA_2A-13A	5, 10, 15, 20	10		SCC #3
DCC #5	CA_2A-17A	5, 10	5, 10		No
DCC #6	CA_2A-30A	5, 10, 15, 20	5, 10		SCC #14
DCC #8	CA_2A-66A (2)	5, 10, 15, 20	5, 10, 15, 20		SCC #1
DCC #9	CA_2A-71A	5, 10, 15, 20	5, 10, 15, 20		SCC #10
DCC #10	CA_4A-5A	5, 10, 15, 20	5, 10, 15, 20		SCC #1
DCC #11	CA_4A-5A (1)	5, 10, 15, 20	5, 10		SCC #1
DCC #12	CA_4A-12A (4)	5, 10, 15, 20	5, 10		SCC #8
DCC #13	CA_4A-13A	5, 10, 15, 20	10		SCC #3
DCC #14	CA_4A-17A	5, 10	5, 10	B17 SCC Only	No
DCC #15	CA_5B	5, 10	5, 10		SCC #1
DCC #16	CA_5A-25A	5, 10	5, 10, 15, 20		No
DCC #17	CA_7C	15, 20	15, 20		No
DCC #18	CA_7A-7A (1)	5, 10, 15, 20	5, 10, 15, 20		No
DCC #19	CA_7A-12A	5, 10, 15, 20	5, 10		SCC #12
DCC #20	CA_12B	5	5, 10		SCC #13
DCC #21	CA_12A-25A	5, 10	5, 10, 15, 20		No
DCC #22	CA_12A-30A	5, 10	5, 10		SCC #14
DCC #23	CA_41A-41A (1)	5, 10, 15, 20	5, 10, 15, 20		No

Index	3CC	Supported Channel Bandwidth [MHz]			Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3		
DCC #1	CA_2A-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		SCC #2
DCC #2	CA_2A-2A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		SCC #1
DCC #3	CA_2A-2A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
DCC #4	CA_2C-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #5	CA_2A-2A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #6	CA_2A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #7	CA_2A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		SCC #1
DCC #8	CA_2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
DCC #9	CA_2A-4A-13A	5, 10, 15, 20	5, 10, 15, 20	10		No
DCC #10	CA_2A-4A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #11	CA_2A-5B	5, 10, 15, 20	5, 10	5, 10		SCC #5
DCC #12	CA_2A-7A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
DCC #13	CA_2A-12B	5, 10, 15, 20	5	5, 10		No
DCC #14	CA_2A-12A-30A	5, 10, 15, 20	5, 10	5, 10		No
DCC #15	CA_4A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
DCC #16	CA_5B-30A	5, 10	5, 10	5, 10		SCC #1
DCC #17	CA_5B-66A	5, 10	5, 10	5, 10, 15, 20		SCC #3
DCC #18	CA_5A-30A-66A	5, 10	5, 10	5, 10, 15, 20		SCC #9
DCC #19	CA_12A-66C	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
DCC #20	CA_30A-66A-66A	5, 10	5, 10, 15, 20	5, 10, 15, 20		SCC #9
DCC #21	CA_41D	10, 15, 20	10, 15, 20	10, 15, 20		No
DCC #22	CA_41A-41C	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #23	CA_66D	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
DCC #24	CA_66A-66C	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No

Index	4CC	Supported Channel Bandwidth [MHz]				Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4		
DCC #1	CA_2A-2A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
DCC #2	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10	B12 SCC Only	No
DCC #3	CA_2A-2A-5A-30A	5, 10, 15, 20	5, 10, 15, 20	5, 10	5, 10		No
DCC #4	CA_2A-2A-5A-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
DCC #5	CA_2A-5B-30A	5, 10, 15, 20	5, 10	5, 10	5, 10		SCC #1
DCC #6	CA_2A-5B-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20		SCC #1
DCC #7	CA_5B-30A-66A	5, 10	5, 10	5, 10	5, 10		SCC #1
DCC #8	CA_5B-66A-66A	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		SCC #2
DCC #9	CA_5A-30A-66A-66A	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
DCC #10	CA_41E	15, 20	15, 20	15, 20	20		No

Index	SCC	Supported Channel Bandwidth [MHz]					Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4	CC5		
SCC #1	CA_2A-5B-30A-66A	5, 10, 15, 20	5, 10	5, 10	5, 10	5, 10, 15, 20		No
SCC #2	CA_2A-5B-66A-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		No

F.2 LTE Downlink Only Carrier Aggregation Test Selection and Setup

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number component carriers (CCs) supported by the product implementation. For those configurations required by April 2018 TCBC Workshop Notes, conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. Additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the maximum average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive. All bands required for SAR testing per FCC KDB procedures were considered. Based on the measured maximum powers below, no additional SAR tests were required for DLCA SAR configurations.

General PCC and SCC configuration selection procedure

- PCC uplink channel, channel bandwidth, modulation and RB configurations were selected based on section C)3)b)ii) of KDB 941225 D05 V01r02. All LTE bandwidth conducted powers needed for PCC uplink configuration selection can be found in Section 8.3 and appendix H. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.
- To maximize aggregated bandwidth, highest channel bandwidth available for that CA combination was selected for SCC. For inter-band CA, the SCC downlink channels were selected near the middle of their transmission bands. For contiguous intra-band CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521. For non-contiguous intra-band CA, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
- All selected PCC and SCC(s) remained fully within the uplink/downlink transmission band of the respective component carrier.

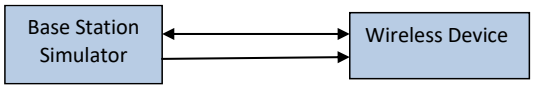


Figure F-1
DL CA Power Measurement Setup

F.3 Downlink Carrier Aggregation RF Conducted Powers

F.3.1 LTE Band 71 as PCC

Table F-2
Maximum Output Powers – Antenna C

	PCC									SCC 1				SCC 2				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-71A	LTE B71	10	133172	668	16QAM	1	0	68636	622	LTE B2	20	900	1960	LTE B2	20	700	1940	17.57	17.93
CA_2A-4A-71A	LTE B71	10	133172	668	16QAM	1	0	68636	622	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	17.56	17.93
CA_2A-66A-71A	LTE B71	10	133172	668	16QAM	1	0	68636	622	LTE B2	20	900	1960	LTE B66	20	66786	2145	17.58	17.93
CA_4A-4A-71A	LTE B71	10	133172	668	16QAM	1	0	68636	622	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	17.52	17.93
CA_66A-66A-71A	LTE B71	10	133172	668	16QAM	1	0	68636	622	LTE B66	20	66786	2145	LTE B66	20	67236	2190	17.59	17.93
CA_66C-71A	LTE B71	10	133172	668	16QAM	1	0	68636	622	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	17.54	17.93

F.3.2 LTE Band 12 as PCC

Table F-3
Maximum Output Powers – Antenna C

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	17.12	17.21
CA_4A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	17.24	17.21
CA_4A-12A (2)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	17.24	17.21
CA_12A-66A (1)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	17.28	17.21
CA_12A-66A (2)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	17.28	17.21
CA_2C-12A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	LTE B2	20	702	1940.2	-	-	-	-	17.19	17.21
CA_4A-7A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	-	-	-	-	17.18	17.21
CA_2A-2A-12B	LTE B12	5	23035	701.5	16QAM	1	0	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	LTE B2	20	700	1940	16.60	17.05
CA_2A-2A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	17.11	17.21
CA_2A-4A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	17.12	17.21
CA_2A-4A-12B	LTE B12	5	23035	701.5	16QAM	1	0	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	16.54	17.05
CA_2A-2A-12A-30A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	17.12	17.21
CA_2A-2A-12A-66A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	17.13	17.21
CA_2A-12A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	17.15	17.21
CA_2A-12A-66C	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	17.10	17.21
CA_2A-4A-12A-30A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	17.29	17.21
CA_2A-12A-30A-66A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	17.30	17.21
CA_4A-4A-12B	LTE B12	5	23035	701.5	16QAM	1	0	5035	731.5	LTE B12	10	5107	738.7	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	16.59	17.05
CA_4A-4A-12A-30A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B30	10	9820	2355	17.31	17.21
CA_12A-30A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	49	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	17.29	17.21

F.3.3 LTE Band 13 as PCC

Table F-4
Maximum Output Powers – Antenna D

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	18.23	18.21
CA_4A-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	18.24	18.21
CA_2A-2A-13A-66A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	18.23	18.21
CA_2A-13A-66A-66A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	18.24	18.21
CA_2A-13A-66B	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	18.22	18.21
CA_2A-13A-66C	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	18.22	18.21
CA_13A-66A-66B	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	LTE B66	5	67168	2183.2	LTE B66	15	67261	2192.5	18.21	18.21
CA_13A-66A-66C	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	LTE B66	20	67038	2170.2	LTE B66	20	67236	2190	18.20	18.21

F.3.4 LTE Band 14 as PCC

Table F-5
Maximum Output Powers – Antenna D

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-14A-66A	LTE B14	10	23330	793	16QAM	1	0	5330	763	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	17.51	18.00
CA_2A-14A-66A-66A	LTE B14	10	23330	793	16QAM	1	0	5330	763	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	17.53	18.00
CA_2A-14A-30A-66A	LTE B14	10	23330	793	16QAM	1	0	5330	763	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	17.55	18.00
CA_14A-30A-66A-66A	LTE B14	10	23330	793	16QAM	1	0	5330	763	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	17.50	18.00

F.3.5 LTE Band 5 as PCC

Table F-6
Maximum Output Powers – Antenna D

	PCC								SCC 1					SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-7A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B7	20	3100	2655	-	-	-	-	-	-	-	-	-	-	-	-	19.03	18.84
CA_5A-25A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B25	20	8365	1962.5	-	-	-	-	-	-	-	-	-	-	-	-	18.95	18.84
CA_5A-41A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B41	20	40620	2593	-	-	-	-	-	-	-	-	-	-	-	-	18.78	18.84
CA_2C-5A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B2	20	702	1940.2	-	-	-	-	-	-	-	-	18.69	18.84
CA_2A-2A-4A-5A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	-	-	-	-	18.42	18.84
CA_2A-4A-4A-5A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	18.40	18.84
CA_2A-4A-5B	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	18.39	18.84
CA_2A-2A-5A-30A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	-	-	-	-	18.42	18.84
CA_2A-2A-5A-66A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	-	-	-	-	18.45	18.84
CA_2A-5A-66A-66A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	18.49	18.84
CA_2A-4A-5A-30A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	-	-	-	-	18.45	18.84
CA_2A-5A-30A-66A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	-	-	-	-	18.48	18.84
CA_4A-4A-5B	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B5	5	2453	874.3	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	18.39	18.84
CA_4A-4A-5A-30A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B30	10	9820	2355	-	-	-	-	18.45	18.84
CA_5A-66D	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	LTE B66	20	66588	2125.2	-	-	-	-	18.48	18.84
CA_5A-66A-66B	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B66	20	66786	2145	LTE B66	10	67187	2185.1	LTE B66	10	67286	2195	-	-	-	-	18.42	18.84
CA_5A-66A-66C	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67038	2170.2	LTE B66	20	67236	2190	-	-	-	-	18.46	18.84
CA_5A-30A-66A-66A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	18.44	18.84
CA_2A-2A-5A-66B	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	18.52	18.84
CA_2A-2A-5A-66C	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	18.59	18.84
CA_2A-5B-66A-66A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	18.53	18.84
CA_2A-5B-66C	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	18.49	18.84
CA_2A-5B-30A-66A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	18.54	18.84
CA_5B-30A-66A-66A	LTE B5	10	20525	836.5	64QAM	1	49	2525	881.5	LTE B5	5	2453	874.3	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	18.55	18.84

F.3.6 LTE Band 26 as PCC

Table F-7
Maximum Output Powers – Antenna C

	PCC									SCC 1				SCC 2				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-26A	LTE B26	5	26715	816.5	64QAM	1	0	8715	861.5	LTE B25	20	8365	1962.5	-	-	-	-	18.20	18.10
CA_25A-25A-26A	LTE B26	5	26715	816.5	64QAM	1	0	8715	861.5	LTE B25	20	8365	1962.5	LTE B25	20	8590	1985	17.39	18.10

F.3.7 LTE Band 66 as PCC

Table F-8
Maximum Output Powers – Antenna C

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	-	-	-	-	13.21	13.23
CA_7A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B7	20	3100	2655	-	-	-	-	-	-	-	-	-	-	-	-	12.92	13.23
CA_12A-66A (1)	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	13.24	13.23
CA_12A-66A (2)	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	13.24	13.23
CA_2C-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B2	20	702	1940.2	-	-	-	-	-	-	-	-	12.62	13.23
CA_2A-66A-71A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B71	20	68761	634.5	-	-	-	-	-	-	-	-	12.55	13.23
CA_29A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B29	10	9715	722.5	-	-	-	-	-	-	-	-	12.58	13.23
CA_66A-66A-71A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B71	20	68761	634.5	-	-	-	-	-	-	-	-	12.55	13.23
CA_66C-71A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B71	20	68761	634.5	-	-	-	-	-	-	-	-	12.60	13.23
CA_2A-2A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B2	20	700	1940	-	-	-	-	13.19	13.23
CA_2A-2A-5A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	-	-	-	-	13.22	13.23
CA_2A-5A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B5	10	2525	881.5	-	-	-	-	13.25	13.23
CA_2A-12A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	-	-	-	-	13.08	13.23
CA_2A-12A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B12	10	5095	737.5	-	-	-	-	13.28	13.23
CA_2A-12A-66C	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B2	20	900	1960	LTE B12	10	5095	737.5	-	-	-	-	13.23	13.23
CA_2A-13A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B13	10	5230	751	-	-	-	-	13.05	13.23
CA_2A-13A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B13	10	5230	751	-	-	-	-	13.22	13.23
CA_2A-13A-66B	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	15	66554	2121.8	LTE B2	20	900	1960	LTE B13	10	5230	751	-	-	-	-	13.20	13.23
CA_2A-13A-66C	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B2	20	900	1960	LTE B13	10	5230	751	-	-	-	-	13.28	13.23
CA_2A-2A-14A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B14	10	5330	763	-	-	-	-	13.22	13.23
CA_2A-14A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B14	10	5330	763	-	-	-	-	13.21	13.23
CA_2A-2A-30A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	-	-	-	-	13.24	13.23
CA_2A-5A-30A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	-	-	-	-	13.23	13.23
CA_2A-12A-30A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	-	-	-	-	13.24	13.23
CA_2A-14A-30A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B14	10	5330	763	LTE B30	10	9820	2355	-	-	-	-	13.11	13.23
CA_2A-29A-30A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	-	-	-	-	13.14	13.23
CA_5A-66D	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B66	20	66344	2100.8	LTE B5	5	2425	871.5	-	-	-	-	13.08	13.23
CA_5A-66A-66B	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	10	67187	2185.1	LTE B5	10	67286	2195	LTE B5	5	2425	871.5	-	-	-	-	13.22	13.23
CA_5A-66B-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	15	66554	2121.8	LTE B5	20	67236	2190	LTE B5	5	2425	871.5	-	-	-	-	13.20	13.23
CA_5A-66A-66C	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67038	2170.2	LTE B5	20	67236	2190	LTE B5	5	2425	871.5	-	-	-	-	13.24	13.23
CA_5A-66C-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B5	20	67236	2190	LTE B5	5	2425	871.5	-	-	-	-	13.27	13.23
CA_5A-30A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	-	-	-	-	13.19	13.23
CA_12A-30A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	-	-	-	-	13.20	13.23
CA_13A-66A-66B	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	10	67187	2185.1	LTE B66	10	67286	2195	LTE B13	10	5230	751	-	-	-	-	13.21	13.23
CA_13A-66C-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B66	20	67236	2190	LTE B13	10	5230	751	-	-	-	-	13.18	13.23
CA_13A-66B-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	15	66554	2121.8	LTE B66	20	67236	2190	LTE B13	10	5230	751	-	-	-	-	13.16	13.23
CA_13A-66A-66C	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67038	2170.2	LTE B66	20	67236	2190	LTE B13	10	5230	751	-	-	-	-	13.25	13.23
CA_13A-66C-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B66	20	67236	2190	LTE B13	10	5230	751	-	-	-	-	13.18	13.23
CA_14A-30A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B14	10	5330	763	LTE B30	10	9820	2355	-	-	-	-	13.24	13.23
CA_2A-2A-66A-66B	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	5	67168	2183.2	LTE B66	15	67261	2192.5	LTE B2	20	900	1960	LTE B2	20	700	1940	12.80	13.23
CA_2A-2A-66A-66C	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	15	66554	2121.8	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B2	20	700	1940	12.78	13.23
CA_2A-2A-66A-66C	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67038	2170.2	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B2	20	700	1940	12.75	13.23
CA_2A-2A-66C-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B2	20	700	1940	12.79	13.23
CA_2A-2A-5A-66B	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	15	66554	2121.8	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	12.73	13.23
CA_2A-2A-5A-66C	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	12.80	13.23
CA_2A-5B-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	12.81	13.23
CA_2A-5B-66C	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	66578	2124.2	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	12.79	13.23
CA_2A-5B-30A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B30	10	9820	2355	12.85	13.23
CA_5B-30A-66A-66A	LTE B66	5	131997	1712.5	64QAM	1	12	66461	2112.5	LTE B66	20	67236	2190	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B30	10	9820	2355	12.79	13.23

F.3.8 LTE Band 25 as PCC

Table F-9
Maximum Output Powers – Antenna C

	PCC									SCC 1				SCC 2				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-25A	LTE B25	15	26615	1907.5	16QAM	1	36	8615	1987.5	LTE B5	10	2525	881.5	-	-	-	-	12.93	12.76
CA_25A-26A	LTE B25	15	26615	1907.5	16QAM	1	36	8615	1987.5	LTE B26	10	8865	876.5	-	-	-	-	12.90	12.76
CA_25A-25A-26A	LTE B25	15	26615	1907.5	16QAM	1	36	8615	1987.5	LTE B25	20	8140	1940	LTE B26	5	8865	876.5	12.68	12.76

F.3.9 LTE Band 30 as PCC

Table F-10
Maximum Output Powers – Antenna C

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2C-30A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	20	702	1940.2	-	-	-	-	-	-	-	-	12.45	12.86
CA_2A-2A-5A-30A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	-	-	-	-	12.46	12.86
CA_2A-2A-12A-30A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	-	-	-	-	12.48	12.86
CA_2A-2A-29A-30A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B29	10	9715	722.5	-	-	-	-	12.33	12.86
CA_2A-2A-30A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	-	-	-	-	12.38	12.86
CA_2A-4A-5A-30A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	-	-	-	-	12.36	12.86
CA_2A-4A-12A-30A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	-	-	-	-	12.37	12.86
CA_2A-4A-29A-30A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	-	-	-	-	12.34	12.86
CA_2A-5A-30A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	-	-	-	-	12.63	12.86
CA_2A-12A-30A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	12.43	12.86
CA_2A-14A-30A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B14	10	5330	763	LTE B66	20	66786	2145	-	-	-	-	12.49	12.86
CA_2A-29A-30A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B29	10	9715	722.5	LTE B66	20	66786	2145	-	-	-	-	12.48	12.86
CA_4A-4A-5A-30A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B5	10	2525	881.5	-	-	-	-	12.58	12.86
CA_4A-4A-12A-30A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B12	10	5095	737.5	-	-	-	-	12.49	12.86
CA_5A-30A-66A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	12.56	12.86
CA_12A-30A-66A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	12.52	12.86
CA_14A-30A-66A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B14	10	5330	763	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	12.51	12.86
CA_2A-5B-30A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B66	20	66786	2145	12.28	12.86
CA_5B-30A-66A-66A	LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B66	20	66786	2145	LTE B66	20	67236	2190	12.31	12.86

F.3.1 LTE Band 7 as PCC

Table F-11
Maximum Output Powers – Antenna C

	PCC									SCC 1				SCC 2				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-7A	LTE B7	10	20800	2505	64QAM	1	0	2800	2625	LTE B5	10	2525	881.5	-	-	-	-	12.38	12.34
CA_7B	LTE B7	15	20825	2507.5	16QAM	1	0	2825	2627.5	LTE B7	5	2918	2636.8	-	-	-	-	12.35	12.33
CA_7C (1)	LTE B7	10	20800	2505	64QAM	1	0	2800	2625	LTE B7	20	2944	2639.4	-	-	-	-	12.39	12.34
CA_7A-66A	LTE B7	10	20800	2505	64QAM	1	0	2800	2625	LTE B66	20	66786	2145	-	-	-	-	12.38	12.34
CA_4A-4A-7A (1)	LTE B7	10	20800	2505	64QAM	1	0	2800	2625	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	11.66	12.34
CA_4A-7A-7A	LTE B7	10	20800	2505	64QAM	1	0	2800	2625	LTE B7	20	3350	2680	LTE B4	20	2175	2132.5	11.72	12.34
CA_4A-7A-12A (1)	LTE B7	10	20800	2505	64QAM	1	0	2800	2625	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	11.70	12.34

F.3.2 LTE Band 41 as PCC

Table F-12
Maximum Output Powers – Antenna D

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41A-41A (1)	LTE B41	15	40185	2549.5	QPSK	75	0	40185	2549.5	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	-	-	-	-	14.33	14.37
CA_41A-41C	LTE B41	15	40185	2549.5	QPSK	75	0	40185	2549.5	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	14.31	14.37
CA_41C-41A	LTE B41	15	40185	2549.5	QPSK	75	0	40185	2549.5	LTE B41	20	40356	2566.6	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	14.30	14.37
CA_41A-41D	LTE B41	15	40185	2549.5	QPSK	75	0	40185	2549.5	LTE B41	20	41094	2640.4	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	-	-	-	-	14.33	14.37
CA_41D-41A	LTE B41	15	40185	2549.5	QPSK	75	0	40185	2549.5	LTE B41	20	40356	2566.6	LTE B41	20	40554	2586.4	LTE B41	20	41490	2680	-	-	-	-	14.34	14.37
CA_41C-41C	LTE B41	15	40185	2549.5	QPSK	75	0	40185	2549.5	LTE B41	20	40356	2566.6	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	-	-	-	-	14.32	14.37
CA_41E	LTE B41	15	40185	2549.5	QPSK	75	0	40185	2549.5	LTE B41	20	40356	2566.6	LTE B41	20	40554	2586.4	LTE B41	20	40752	2606.2	-	-	-	-	14.36	14.37
CA_41C-41D	LTE B41	15	40185	2549.5	QPSK	75	0	40185	2549.5	LTE B41	20	40356	2566.6	LTE B41	20	41094	2640.4	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	14.35	14.37
CA_41D-41C	LTE B41	15	40185	2549.5	QPSK	75	0	40185	2549.5	LTE B41	20	40356	2566.6	LTE B41	20	40554	2586.4	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	14.36	14.37

F.4 Downlink Carrier Aggregation with CA_41C Uplink Carrier Aggregation enabled

This device supports uplink carrier aggregation (ULCA) with additional Carrier Aggregation configurations active in the downlink. Power measurements were performed with ULCA active and additional CA configurations active in the downlink for the configuration per Fall 2017 TCB Workshop Notes.

Per FCC Guidance, additional SAR measurements for these configurations were not required since their maximum output power was not more than 0.25 dB higher than the maximum output power for with only ULCA active.

F.4.1 DL Carrier Aggregation RF Conducted Powers

Table F-13
Maximum Output Powers – Antenna C

	PCC									SCC 1									SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (UL) Channel	SCC (UL) Freq. [MHz]	Mod	SCC UL# RB	SCC UL# RB Offset	SCC (DL) Channel	SCC (DL) Freq [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	ULCA Tx. Power with add'l CA configuration in DL (dBm)	ULCA Tx. Power (dBm)
CA_41C-41A	LTE B41	20	40185	2549.5	QPSK	50	0	40185	2549.5	LTE B41	20	39987	2529.7	QPSK	50	50	39987	2529.7	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	13.80	13.82
CA_41D-41A	LTE B41	20	40185	2549.5	QPSK	50	0	40185	2549.5	LTE B41	20	39987	2529.7	QPSK	50	50	39987	2529.7	LTE B41	20	39789	2509.9	LTE B41	20	41490	2680	-	-	-	-	13.77	13.82
CA_41C-41C	LTE B41	20	40185	2549.5	QPSK	50	0	40185	2549.5	LTE B41	20	39987	2529.7	QPSK	50	50	39987	2529.7	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	-	-	-	-	13.82	13.82
CA_41E	LTE B41	20	40185	2549.5	QPSK	50	0	40185	2549.5	LTE B41	20	39987	2529.7	QPSK	50	50	39987	2529.7	LTE B41	20	39789	2509.9	LTE B41	20	40383	2569.3	-	-	-	-	13.75	13.82
CA_41C-41D	LTE B41	20	40185	2549.5	QPSK	50	0	40185	2549.5	LTE B41	20	39987	2529.7	QPSK	50	50	39987	2529.7	LTE B41	20	41094	2640.4	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	13.75	13.82
CA_41D-41C	LTE B41	20	40185	2549.5	QPSK	50	0	40185	2549.5	LTE B41	20	39987	2529.7	QPSK	50	50	39987	2529.7	LTE B41	20	39789	2509.9	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	13.76	13.82

APPENDIX G: POWER REDUCTION VERIFICATION

The device supports manufacturer's proprietary power reduction mechanism called "Detect Mode" for the Main Cellular Antenna. Details of this mechanism can be found in the Operational Description. When the device is being used "on-body" or "held in hand" by the user, the device will detect motion and reduce the power of the main antenna. Per the manufacturer, the mechanism is agnostic to different cellular air interfaces. Detect Mode operation was verified for two test cases, on-body and held in hand, for each supported cellular band. The power reduction verification results are below.

1.1 Main Antenna Power Verification Summary

Table G-1
Main Antenna Power Verification

Mode/Band	Antenna	Maximum Scenario Maximum Allowed Target Power [dBm]	Reduced Scenario Maximum Allowed Target Power [dBm]	Conducted Power [dBm]			
				Maximum	Test Case 1	Test Case 2	Verdict
WCDMA B5	Antenna C	25.00 (± 0.5)	17.20 (± 0.5)	25.04	17.08	17.11	PASS
	Antenna D	24.00 (± 0.5)	18.70 (± 0.5)	24.41	18.95	18.93	PASS
WCDMA B4	Antenna C	25.00 (± 0.5)	12.80 (± 0.5)	25.14	12.97	12.94	PASS
	Antenna D	24.50 (± 0.5)	12.70 (± 0.5)	24.77	12.94	12.92	PASS
WCDMA B2	Antenna C	25.00 (± 0.5)	12.60 (± 0.5)	25.35	12.83	12.80	PASS
	Antenna D	24.50 (± 0.5)	11.50 (± 0.5)	24.66	11.75	11.73	PASS
LTE Band 71	Antenna C	25.00 (± 0.5)	17.60 (± 0.5)	25.28	17.88	17.85	PASS
	Antenna D	24.00 (± 0.5)	16.70 (± 0.5)	24.49	17.13	17.12	PASS
LTE Band 12	Antenna C	25.00 (± 0.5)	17.00 (± 0.5)	25.12	17.00	16.98	PASS
	Antenna D	24.00 (± 0.5)	16.70 (± 0.5)	24.18	16.82	16.84	PASS
LTE Band 17	Antenna C	25.00 (± 0.5)	17.00 (± 0.5)	25.14	17.22	17.23	PASS
	Antenna D	24.00 (± 0.5)	16.70 (± 0.5)	24.09	16.80	16.82	PASS
LTE Band 13	Antenna C	25.00 (± 0.5)	17.60 (± 0.5)	25.47	17.93	17.94	PASS
	Antenna D	24.00 (± 0.5)	17.80 (± 0.5)	24.37	18.08	18.10	PASS
LTE Band 14	Antenna C	25.00 (± 0.5)	17.60 (± 0.5)	25.20	17.91	17.90	PASS
	Antenna D	24.00 (± 0.5)	17.80 (± 0.5)	24.19	17.92	17.89	PASS
LTE Band 26	Antenna C	25.00 (± 0.5)	17.70 (± 0.5)	25.23	18.13	18.11	PASS
	Antenna D	24.00 (± 0.5)	17.70 (± 0.5)	24.38	18.10	18.09	PASS
LTE Band 5	Antenna C	25.00 (± 0.5)	17.20 (± 0.5)	25.20	17.43	17.40	PASS
	Antenna D	24.00 (± 0.5)	18.70 (± 0.5)	24.20	18.90	18.88	PASS
LTE Band 4	Antenna C	25.00 (± 0.5)	12.80 (± 0.5)	25.49	13.30	13.29	PASS
	Antenna D	23.00 (± 0.5)	12.70 (± 0.5)	23.48	13.12	13.15	PASS
LTE Band 66	Antenna C	25.00 (± 0.5)	12.80 (± 0.5)	25.50	13.25	13.23	PASS
	Antenna D	23.00 (± 0.5)	12.70 (± 0.5)	23.47	13.05	13.07	PASS
LTE Band 2	Antenna C	25.00 (± 0.5)	12.60 (± 0.5)	25.48	12.94	12.93	PASS
	Antenna D	23.00 (± 0.5)	11.50 (± 0.5)	23.37	11.85	11.82	PASS
LTE Band 25	Antenna C	25.00 (± 0.5)	12.60 (± 0.5)	24.76	12.87	12.86	PASS
	Antenna D	23.00 (± 0.5)	11.50 (± 0.5)	23.19	11.97	11.94	PASS
LTE Band 30	Antenna C	21.30 (± 0.5)	12.70 (± 0.5)	21.41	12.99	13.01	PASS
	Antenna D	20.80 (± 0.5)	12.30 (± 0.5)	20.87	12.61	12.64	PASS
LTE Band 7	Antenna C	25.00 (± 0.5)	11.90 (± 0.5)	25.06	12.17	12.15	PASS
	Antenna D	22.75 (± 0.5)	11.90 (± 0.5)	22.97	12.05	12.06	PASS
LTE Band 41 (PC3)	Antenna C	25.00 (± 0.5)	14.00 (± 0.5)	24.94	13.78	13.77	PASS
	Antenna D	22.75 (± 0.5)	14.00 (± 0.5)	22.88	14.25	14.23	PASS
LTE Band 41 (PC2)	Antenna C	26.50 (± 0.5)	14.00 (± 0.5)	26.49	13.80	13.78	PASS
	Antenna D	24.25 (± 0.5)	14.00 (± 0.5)	24.26	14.30	14.28	PASS
LTE B7 ULCA	Antenna C	24.00 (± 1)	11.40 (± 1)	24.66	11.51	11.69	PASS
	Antenna D	21.75 (± 1)	11.40 (± 1)	21.83	11.41	11.53	PASS
LTE B41 (PC3) ULCA	Antenna C	24.00 (± 1)	13.50 (± 1)	24.25	13.54	13.75	PASS
	Antenna D	21.75 (± 1)	13.50 (± 1)	22.12	13.70	13.87	PASS

Test Case 1: Device Held in Hand

Test Case 2: Device Resting on Lap

Test Cases represent typical scenarios in which the device power would be reduced. In these scenarios detect mode has been verified to identify typical on-body use-cases including when thin objects, such as a magazine or newspaper are placed between the body and the device. In the absence of detect mode output, the device defaults to the most conservative power.

APPENDIX H: LTE LOWER BANDWIDTH RF CONDUCTED POWERS

H.1 LTE Lower Bandwidth RF Conducted Powers

H.1.1 LTE Band 71

Table *H*-1
LTE Band 71 Conducted Power Antenna C - 15 MHz Bandwidth

LTE Band 71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.25	0	0
	1	36	17.46		0
	1	74	17.23		0
	36	0	17.47	0-1	0
	36	18	17.54		0
	36	37	17.35		0
	75	0	17.47		0
16QAM	1	0	17.31	0-1	0
	1	36	17.62		0
	1	74	17.35		0
	36	0	17.22	0-2	0
	36	18	17.22		0
	36	37	17.10		0
	75	0	17.22		0
64QAM	1	0	17.22	0-2	0
	1	36	17.43		0
	1	74	17.21		0
	36	0	17.22	0-3	0
	36	18	17.28		0
	36	37	17.15		0
	75	0	17.24		0

Note: LTE Band 71 at 15 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table *H*-2
LTE Band 71 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 71 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133172 (668.0 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133422 (693.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.70	17.47	17.33	0	0
	1	25	17.45	17.40	17.37		0
	1	49	17.51	17.31	17.34		0
	25	0	17.41	17.47	17.39	0-1	0
	25	12	17.44	17.50	17.36		0
	25	25	17.52	17.35	17.41		0
	50	0	17.47	17.48	17.44		0
16QAM	1	0	17.93	17.49	17.48	0-1	0
	1	25	17.39	17.50	17.55		0
	1	49	17.66	17.36	17.41		0
	25	0	17.16	17.25	17.22	0-2	0
	25	12	17.21	17.27	17.14		0
	25	25	17.27	17.19	17.20		0
	50	0	17.22	17.23	17.19		0
64QAM	1	0	17.71	17.47	17.53	0-2	0
	1	25	17.58	17.32	17.47		0
	1	49	17.52	17.24	17.40		0
	25	0	17.14	17.24	17.18	0-3	0
	25	12	17.19	17.29	17.17		0
	25	25	17.29	17.18	17.20		0
	50	0	17.17	17.25	17.20		0

Table *H*-3
LTE Band 71 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133147 (665.5 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133447 (695.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.77	17.48	17.31	0	0
	1	12	17.45	17.43	17.29		0
	1	24	17.51	17.35	17.27		0
	12	0	17.52	17.48	17.38	0-1	0
	12	6	17.36	17.46	17.40		0
	12	13	17.34	17.38	17.40		0
	25	0	17.38	17.41	17.41		0
16QAM	1	0	17.67	17.44	17.49	0-1	0
	1	12	17.37	17.29	17.26		0
	1	24	17.48	17.28	17.28		0
	12	0	17.35	17.29	17.19	0-2	0
	12	6	17.19	17.30	17.20		0
	12	13	17.16	17.19	17.24		0
	25	0	17.11	17.17	17.16		0
64QAM	1	0	17.52	17.46	17.42	0-2	0
	1	12	17.37	17.52	17.44		0
	1	24	17.15	17.36	17.38		0
	12	0	17.26	17.21	17.13	0-3	0
	12	6	17.11	17.22	17.18		0
	12	13	17.14	17.11	17.20		0
	25	0	17.15	17.16	17.13		0

Table *H*-4
LTE Band 71 Conducted Power Antenna D - 15 MHz Bandwidth

LTE Band 71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	16.39	0	0
	1	36	16.57		0
	1	74	16.38		0
	36	0	16.63	0-1	0
	36	18	16.63		0
	36	37	16.47		0
	75	0	16.60		0
16QAM	1	0	16.76	0-1	0
	1	36	16.96		0
	1	74	16.75		0
	36	0	16.61	0-2	0
	36	18	16.64		0
	36	37	16.50		0
	75	0	16.60		0
64QAM	1	0	16.69	0-2	0
	1	36	16.93		0
	1	74	16.62		0
	36	0	16.66	0-3	0
	36	18	16.70		0
	36	37	16.51		0
	75	0	16.60		0

Note: LTE Band 71 at 15 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table *H*-5
LTE Band 71 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 71 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133172 (668.0 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133422 (693.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	16.76	16.60	16.47	0	0
	1	25	16.58	16.45	16.43		0
	1	49	16.55	16.40	16.41		0
	25	0	16.55	16.53	16.53	0-1	0
	25	12	16.55	16.57	16.49		0
	25	25	16.64	16.43	16.47		0
	50	0	16.60	16.54	16.50		0
16QAM	1	0	17.15	16.70	16.85	0-1	0
	1	25	16.80	16.77	16.88		0
	1	49	16.97	16.57	16.83		0
	25	0	16.55	16.55	16.54	0-2	0
	25	12	16.56	16.60	16.53		0
	25	25	16.66	16.47	16.47		0
	50	0	16.58	16.54	16.50		0
64QAM	1	0	17.12	16.87	16.75	0-2	0
	1	25	16.78	16.68	16.64		0
	1	49	16.84	16.87	16.72		0
	25	0	16.55	16.59	16.56	0-3	0
	25	12	16.52	16.60	16.51		0
	25	25	16.61	16.49	16.51		0
	50	0	16.56	16.55	16.51		0

Table *H*-6
LTE Band 71 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133147 (665.5 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133447 (695.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	16.83	16.53	16.37	0	0
	1	12	16.64	16.47	16.34		0
	1	24	16.66	16.44	16.34		0
	12	0	16.61	16.56	16.42	0-1	0
	12	6	16.55	16.54	16.45		0
	12	13	16.52	16.46	16.48		0
	25	0	16.53	16.48	16.44		0
16QAM	1	0	16.90	16.63	16.69	0-1	0
	1	12	17.04	16.77	16.64		0
	1	24	17.01	16.68	16.76		0
	12	0	16.62	16.66	16.46	0-2	0
	12	6	16.58	16.55	16.48		0
	12	13	16.60	16.54	16.46		0
	25	0	16.57	16.54	16.48		0
64QAM	1	0	16.99	16.87	16.78	0-2	0
	1	12	16.78	16.85	16.51		0
	1	24	16.62	16.76	16.58		0
	12	0	16.64	16.57	16.45	0-3	0
	12	6	16.56	16.57	16.51		0
	12	13	16.48	16.50	16.48		0
	25	0	16.55	16.50	16.45		0

H.1.2 LTE Band 12

Table *H*-7
LTE Band 12 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	16.96	16.91	16.74	0	0
	1	12	16.93	16.87	16.69		0
	1	24	16.96	16.95	16.77		0
	12	0	16.84	16.82	16.85	0-1	0
	12	6	16.84	16.83	16.74		0
	12	13	16.85	16.84	16.81		0
	25	0	16.85	16.84	16.81		0
16QAM	1	0	17.05	17.02	16.86	0-1	0
	1	12	17.01	16.98	16.74		0
	1	24	16.97	17.04	16.92		0
	12	0	16.68	16.67	16.73	0-2	0
	12	6	16.63	16.69	16.58		0
	12	13	16.66	16.64	16.63		0
	25	0	16.66	16.65	16.64		0
64QAM	1	0	16.65	16.96	16.90	0-2	0
	1	12	16.80	16.89	16.81		0
	1	24	16.71	17.04	16.98		0
	12	0	16.67	16.68	16.73	0-3	0
	12	6	16.61	16.64	16.52		0
	12	13	16.69	16.68	16.65		0
	25	0	16.62	16.63	16.58		0

Table *H*-8
LTE Band 12 Conducted Power Antenna C - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	16.81	16.76	16.69	0	0
	1	7	16.84	16.83	16.79		0
	1	14	16.79	16.75	16.76		0
	8	0	16.85	16.84	16.77	0-1	0
	8	4	16.83	16.84	16.81		0
	8	7	16.85	16.82	16.85		0
	15	0	16.87	16.85	16.83		0
16QAM	1	0	17.01	16.79	16.78	0-1	0
	1	7	16.80	16.87	17.03		0
	1	14	16.91	16.82	16.91		0
	8	0	16.68	16.70	16.67	0-2	0
	8	4	16.70	16.67	16.69		0
	8	7	16.71	16.64	16.72		0
	15	0	16.68	16.69	16.68		0
64QAM	1	0	16.95	16.67	16.85	0-2	0
	1	7	16.92	16.79	16.96		0
	1	14	16.82	16.70	16.97		0
	8	0	16.71	16.72	16.65	0-3	0
	8	4	16.66	16.70	16.68		0
	8	7	16.67	16.69	16.74		0
	15	0	16.63	16.69	16.70		0

Table *H*-9
LTE Band 12 Conducted Power Antenna C - 1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	16.83	16.83	16.81	0	0
	1	2	16.80	16.95	16.85		0
	1	5	16.82	16.94	16.87		0
	3	0	16.83	16.83	16.88		0
	3	2	16.84	16.84	16.86		0
	3	3	16.83	16.81	16.87		0
	6	0	16.83	16.83	16.85	0-1	0
16QAM	1	0	16.74	17.08	16.87	0-1	0
	1	2	16.90	16.83	16.87		0
	1	5	16.91	17.03	17.05		0
	3	0	16.83	16.78	16.82		0
	3	2	16.82	16.79	16.75		0
	3	3	16.79	16.85	16.76		0
	6	0	16.75	16.70	16.79	0-2	0
64QAM	1	0	16.81	16.99	16.90	0-2	0
	1	2	17.10	16.96	17.02		0
	1	5	16.87	16.97	17.09		0
	3	0	16.99	16.78	16.78		0
	3	2	16.93	16.82	16.75		0
	3	3	16.86	16.70	16.80		0
	6	0	16.68	16.65	16.80	0-3	0

Table *H*-10
LTE Band 12 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	16.77	16.62	16.56	0	0
	1	12	16.72	16.67	16.45		0
	1	24	16.64	16.66	16.57		0
	12	0	16.64	16.61	16.62	0-1	0
	12	6	16.63	16.63	16.56		0
	12	13	16.63	16.62	16.58		0
	25	0	16.64	16.61	16.56		0
16QAM	1	0	16.92	17.01	16.92	0-1	0
	1	12	17.13	16.80	16.80		0
	1	24	16.94	16.83	16.90		0
	12	0	16.72	16.64	16.63	0-2	0
	12	6	16.65	16.69	16.61		0
	12	13	16.68	16.68	16.62		0
	25	0	16.67	16.67	16.59		0
64QAM	1	0	16.61	16.87	16.88	0-2	0
	1	12	16.62	16.95	16.90		0
	1	24	16.80	17.02	17.01		0
	12	0	16.65	16.67	16.64	0-3	0
	12	6	16.69	16.63	16.60		0
	12	13	16.65	16.63	16.59		0
	25	0	16.68	16.66	16.53		0

Table *H*-11
LTE Band 12 Conducted Power Antenna D - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	16.64	16.54	16.47	0	0
	1	7	16.70	16.61	16.53		0
	1	14	16.61	16.53	16.56		0
	8	0	16.70	16.61	16.55	0-1	0
	8	4	16.63	16.61	16.59		0
	8	7	16.69	16.62	16.63		0
	15	0	16.68	16.64	16.61		0
16QAM	1	0	17.12	16.76	16.66	0-1	0
	1	7	17.01	16.87	16.95		0
	1	14	16.84	16.82	16.84		0
	8	0	16.77	16.64	16.63	0-2	0
	8	4	16.68	16.68	16.66		0
	8	7	16.67	16.69	16.65		0
	15	0	16.65	16.66	16.63		0
64QAM	1	0	16.86	16.87	16.73	0-2	0
	1	7	17.03	16.87	16.94		0
	1	14	16.85	16.91	16.93		0
	8	0	16.71	16.72	16.63	0-3	0
	8	4	16.68	16.68	16.66		0
	8	7	16.67	16.66	16.68		0
	15	0	16.67	16.63	16.65		0

Table *H*-12
LTE Band 12 Conducted Power Antenna D - 1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	16.69	16.72	16.67	0	0
	1	2	16.80	16.70	16.65		0
	1	5	16.82	16.71	16.74		0
	3	0	16.72	16.74	16.69		0
	3	2	16.72	16.74	16.68		0
	3	3	16.73	16.72	16.73		0
	6	0	16.71	16.71	16.66	0-1	0
16QAM	1	0	16.86	16.90	16.85	0-1	0
	1	2	16.94	17.08	16.78		0
	1	5	17.02	17.05	16.99		0
	3	0	16.89	16.89	16.79		0
	3	2	16.88	16.86	16.83		0
	3	3	16.87	16.86	16.88		0
	6	0	16.81	16.84	16.77	0-2	0
64QAM	1	0	16.86	16.99	17.00	0-2	0
	1	2	17.06	16.99	16.85		0
	1	5	17.02	16.94	17.04		0
	3	0	16.97	16.84	16.77		0
	3	2	16.98	16.90	16.78		0
	3	3	17.03	16.86	16.78		0
	6	0	16.74	16.73	16.69	0-3	0

H.1.3 LTE Band 13

Table *H*-13
LTE Band 13 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.32	0	0
	1	12	17.13		0
	1	24	17.14		0
	12	0	17.31	0-1	0
	12	6	17.29		0
	12	13	17.25		0
	25	0	17.27		0
16QAM	1	0	17.52	0-1	0
	1	12	17.20		0
	1	24	17.24		0
	12	0	17.13	0-2	0
	12	6	17.14		0
	12	13	17.11		0
	25	0	17.12		0
64QAM	1	0	17.41	0-2	0
	1	12	17.23		0
	1	24	17.31		0
	12	0	17.13	0-3	0
	12	6	17.18		0
	12	13	17.18		0
	25	0	17.12		0

Note: LTE Band 13 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table *H*-14
LTE Band 13 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.83	0	0
	1	12	17.65		0
	1	24	17.68		0
	12	0	17.80	0-1	0
	12	6	17.78		0
	12	13	17.80		0
	25	0	17.75		0
16QAM	1	0	18.01	0-1	0
	1	12	17.73		0
	1	24	17.72		0
	12	0	17.59	0-2	0
	12	6	17.57		0
	12	13	17.58		0
	25	0	17.46		0
64QAM	1	0	17.86	0-2	0
	1	12	17.65		0
	1	24	17.70		0
	12	0	17.54	0-3	0
	12	6	17.57		0
	12	13	17.52		0
	25	0	17.47		0

Note: LTE Band 13 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

H.1.4 LTE Band 14

Table *H*-15
LTE Band 14 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 14 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.53	0	0
	1	12	17.41		0
	1	24	17.42		0
	12	0	17.57	0-1	0
	12	6	17.58		0
	12	13	17.57		0
	25	0	17.52		0
16QAM	1	0	17.61	0-1	0
	1	12	17.70		0
	1	24	17.64		0
	12	0	17.41	0-2	0
	12	6	17.42		0
	12	13	17.41		0
	25	0	17.40		0
64QAM	1	0	17.67	0-2	0
	1	12	17.64		0
	1	24	17.61		0
	12	0	17.40	0-3	0
	12	6	17.40		0
	12	13	17.38		0
	25	0	17.36		0

Note: LTE Band 14 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table *H*-16
LTE Band 14 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 14 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.73	0	0
	1	12	17.69		0
	1	24	17.71		0
	12	0	17.83	0-1	0
	12	6	17.78		0
	12	13	17.78		0
	25	0	17.78		0
16QAM	1	0	17.83	0-1	0
	1	12	17.80		0
	1	24	17.78		0
	12	0	17.67	0-2	0
	12	6	17.62		0
	12	13	17.58		0
	25	0	17.58		0
64QAM	1	0	17.67	0-2	0
	1	12	17.67		0
	1	24	17.85		0
	12	0	17.67	0-3	0
	12	6	17.59		0
	12	13	17.54		0
	25	0	17.55		0

Note: LTE Band 14 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

H.1.5 LTE Band 26

Table *H*-17
LTE Band 26 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26715 (816.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27015 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.02	17.81	17.76	0	0
	1	12	17.74	17.74	17.62		0
	1	24	17.71	17.71	17.62		0
	12	0	17.82	17.70	17.76	0-1	0
	12	6	17.74	17.67	17.69		0
	12	13	17.72	17.65	17.69		0
	25	0	17.74	17.68	17.70		0
16QAM	1	0	17.96	17.73	17.64	0-1	0
	1	12	17.84	17.69	17.54		0
	1	24	17.71	17.56	17.48		0
	12	0	17.65	17.50	17.55	0-2	0
	12	6	17.51	17.50	17.48		0
	12	13	17.53	17.38	17.47		0
	25	0	17.50	17.44	17.44		0
64QAM	1	0	18.10	17.78	17.84	0-2	0
	1	12	17.58	17.54	17.69		0
	1	24	17.66	17.66	17.66		0
	12	0	17.66	17.42	17.56	0-3	0
	12	6	17.51	17.40	17.44		0
	12	13	17.47	17.38	17.42		0
	25	0	17.52	17.42	17.42		0

Table *H*-18
LTE Band 26 Conducted Power Antenna C - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26705 (815.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27025 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.92	17.60	17.62	0	0
	1	7	17.76	17.64	17.65		0
	1	14	17.65	17.56	17.58		0
	8	0	17.92	17.70	17.68	0-1	0
	8	4	17.81	17.68	17.69		0
	8	7	17.75	17.66	17.69		0
	15	0	17.82	17.69	17.69		0
16QAM	1	0	17.95	17.59	17.62	0-1	0
	1	7	17.74	17.54	17.63		0
	1	14	17.53	17.53	17.51		0
	8	0	17.67	17.54	17.47	0-2	0
	8	4	17.60	17.48	17.53		0
	8	7	17.53	17.45	17.51		0
	15	0	17.60	17.49	17.45		0
64QAM	1	0	17.87	17.57	17.67	0-2	0
	1	7	17.85	17.85	17.87		0
	1	14	17.55	17.69	17.78		0
	8	0	17.72	17.44	17.51	0-3	0
	8	4	17.64	17.47	17.54		0
	8	7	17.54	17.40	17.54		0
	15	0	17.58	17.37	17.49		0

Table *H*-19
LTE Band 26 Conducted Power Antenna C - 1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.98	17.64	17.82	0	0
	1	2	17.87	17.61	17.80		0
	1	5	17.89	17.62	17.82		0
	3	0	17.92	17.70	17.69		0
	3	2	17.91	17.68	17.68		0
	3	3	17.91	17.70	17.68		0
	6	0	17.91	17.68	17.66	0-1	0
16QAM	1	0	17.96	17.55	17.61	0-1	0
	1	2	17.86	17.58	17.63		0
	1	5	17.88	17.50	17.78		0
	3	0	17.86	17.55	17.50		0
	3	2	17.83	17.44	17.58		0
	3	3	17.84	17.52	17.55		0
	6	0	17.69	17.46	17.48	0-2	0
64QAM	1	0	17.91	17.72	17.77	0-2	0
	1	2	17.91	17.60	17.85		0
	1	5	17.88	17.55	17.57		0
	3	0	17.84	17.44	17.48		0
	3	2	17.78	17.46	17.55		0
	3	3	17.85	17.47	17.63		0
	6	0	17.72	17.42	17.47	0-3	0

Table *H*-20
LTE Band 26 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26715 (816.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27015 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.88	17.51	17.54	0	0
	1	12	17.71	17.44	17.42		0
	1	24	17.73	17.46	17.46		0
	12	0	17.67	17.51	17.54	0-1	0
	12	6	17.62	17.49	17.50		0
	12	13	17.62	17.48	17.55		0
	25	0	17.63	17.49	17.51		0
16QAM	1	0	18.08	17.69	17.60	0-1	0
	1	12	17.58	17.64	17.55		0
	1	24	17.55	17.39	17.60		0
	12	0	17.57	17.36	17.33	0-2	0
	12	6	17.47	17.28	17.30		0
	12	13	17.44	17.27	17.31		0
	25	0	17.43	17.25	17.28		0
64QAM	1	0	17.68	17.47	17.80	0-2	0
	1	12	17.60	17.30	17.39		0
	1	24	17.73	17.52	17.48		0
	12	0	17.49	17.30	17.26	0-3	0
	12	6	17.43	17.30	17.30		0
	12	13	17.44	17.27	17.30		0
	25	0	17.39	17.26	17.26		0

Table *H*-21
LTE Band 26 Conducted Power Antenna D - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26705 (815.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27025 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.70	17.47	17.43	0	0
	1	7	17.67	17.48	17.53		0
	1	14	17.57	17.40	17.45		0
	8	0	17.78	17.53	17.53	0-1	0
	8	4	17.69	17.52	17.57		0
	8	7	17.66	17.52	17.57		0
	15	0	17.69	17.53	17.58		0
16QAM	1	0	17.73	17.41	17.52	0-1	0
	1	7	17.81	17.63	17.71		0
	1	14	17.74	17.39	17.63		0
	8	0	17.59	17.35	17.35	0-2	0
	8	4	17.52	17.31	17.35		0
	8	7	17.42	17.28	17.36		0
	15	0	17.49	17.28	17.33		0
64QAM	1	0	17.99	17.49	17.44	0-2	0
	1	7	17.90	17.45	17.57		0
	1	14	17.74	17.46	17.53		0
	8	0	17.64	17.34	17.30	0-3	0
	8	4	17.52	17.30	17.39		0
	8	7	17.47	17.33	17.35		0
	15	0	17.48	17.25	17.32		0

Table *H*-22
LTE Band 26 Conducted Power Antenna D - 1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.77	17.48	17.71	0	0
	1	2	17.74	17.45	17.68		0
	1	5	17.67	17.47	17.69		0
	3	0	17.79	17.53	17.58		0
	3	2	17.81	17.50	17.56		0
	3	3	17.79	17.51	17.56		0
	6	0	17.78	17.51	17.55	0-1	0
16QAM	1	0	17.94	17.69	17.71	0-1	0
	1	2	17.89	17.56	17.58		0
	1	5	17.91	17.46	17.53		0
	3	0	17.71	17.45	17.46		0
	3	2	17.69	17.49	17.46		0
	3	3	17.70	17.44	17.60		0
	6	0	17.64	17.45	17.40	0-2	0
64QAM	1	0	18.06	17.71	17.63	0-2	0
	1	2	17.81	17.51	17.49		0
	1	5	17.85	17.57	17.58		0
	3	0	17.68	17.48	17.61		0
	3	2	17.61	17.45	17.62		0
	3	3	17.66	17.48	17.56		0
	6	0	17.56	17.40	17.37	0-3	0

H.1.6 LTE Band 5

Table *H*-23
LTE Band 5 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.36	17.25	17.17	0	0
	1	12	17.28	17.21	17.06		0
	1	24	17.21	17.33	17.10		0
	12	0	17.32	17.16	17.19	0-1	0
	12	6	17.31	17.13	17.14		0
	12	13	17.31	17.20	17.15		0
	25	0	17.31	17.15	17.14		0
16QAM	1	0	17.37	17.25	17.28	0-1	0
	1	12	17.42	17.12	16.87		0
	1	24	17.30	17.30	17.16		0
	12	0	17.12	16.99	16.98	0-2	0
	12	6	17.10	16.95	16.93		0
	12	13	17.11	17.01	17.00		0
	25	0	17.14	16.95	16.92		0
64QAM	1	0	17.38	17.11	17.30	0-2	0
	1	12	17.14	17.27	17.41		0
	1	24	17.25	17.32	17.38		0
	12	0	17.13	16.94	17.06	0-3	0
	12	6	17.19	16.92	16.94		0
	12	13	17.17	17.06	17.01		0
	25	0	17.12	16.96	16.94		0

Table *H*-24
LTE Band 5 Conducted Power Antenna C - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.30	17.05	17.07	0	0
	1	7	17.28	17.09	17.11		0
	1	14	17.23	17.13	17.02		0
	8	0	17.41	17.14	17.13	0-1	0
	8	4	17.33	17.15	17.15		0
	8	7	17.34	17.22	17.15		0
	15	0	17.33	17.16	17.16		0
16QAM	1	0	17.26	17.06	17.15	0-1	0
	1	7	17.31	17.16	17.16		0
	1	14	17.29	17.16	17.01		0
	8	0	17.23	16.95	16.99	0-2	0
	8	4	17.16	16.94	16.99		0
	8	7	17.21	17.05	17.00		0
	15	0	17.10	16.91	16.94		0
64QAM	1	0	17.24	17.31	17.34	0-2	0
	1	7	17.39	17.27	17.23		0
	1	14	17.27	17.07	17.19		0
	8	0	17.26	17.01	17.03	0-3	0
	8	4	17.22	16.93	17.04		0
	8	7	17.20	17.05	16.99		0
	15	0	17.11	16.96	16.94		0

Table *H*-25
LTE Band 5 Conducted Power Antenna C - 1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.34	17.09	17.29	0	0
	1	2	17.32	17.08	17.26		0
	1	5	17.28	17.10	17.29		0
	3	0	17.37	17.15	17.14		0
	3	2	17.38	17.17	17.16		0
	3	3	17.38	17.17	17.17		0
	6	0	17.38	17.15	17.15	0-1	0
16QAM	1	0	17.39	17.01	17.34	0-1	0
	1	2	17.26	17.14	17.29		0
	1	5	17.32	17.23	17.23		0
	3	0	17.35	17.05	17.10		0
	3	2	17.31	17.08	17.12		0
	3	3	17.36	16.99	17.06		0
	6	0	17.28	17.02	16.96	0-2	0
64QAM	1	0	17.26	17.23	17.23	0-2	0
	1	2	17.53	17.18	17.29		0
	1	5	17.43	17.08	17.09		0
	3	0	17.34	17.01	17.04		0
	3	2	17.32	16.93	17.03		0
	3	3	17.17	16.98	17.11		0
	6	0	17.21	16.93	16.96	0-3	0

Table *H*-26
LTE Band 5 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.65	18.58	18.56	0	0
	1	12	18.63	18.56	18.40		0
	1	24	18.53	18.66	18.41		0
	12	0	18.64	18.49	18.46	0-1	0
	12	6	18.63	18.49	18.45		0
	12	13	18.62	18.54	18.47		0
	25	0	18.63	18.50	18.46		0
16QAM	1	0	18.67	18.56	18.68	0-1	0
	1	12	18.64	18.57	18.45		0
	1	24	18.63	18.65	18.69		0
	12	0	18.53	18.30	18.32	0-2	0
	12	6	18.44	18.29	18.30		0
	12	13	18.43	18.36	18.35		0
	25	0	18.45	18.30	18.31		0
64QAM	1	0	18.68	18.50	18.67	0-2	0
	1	12	18.63	18.59	18.55		0
	1	24	18.64	18.68	18.54		0
	12	0	18.42	18.35	18.35	0-3	0
	12	6	18.49	18.32	18.31		0
	12	13	18.47	18.33	18.30		0
	25	0	18.38	18.30	18.31		0

Table *H*-27
LTE Band 5 Conducted Power Antenna D - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.62	18.45	18.45	0	0
	1	7	18.64	18.48	18.47		0
	1	14	18.58	18.45	18.43		0
	8	0	18.65	18.53	18.47	0-1	0
	8	4	18.64	18.51	18.49		0
	8	7	18.62	18.58	18.46		0
	15	0	18.65	18.52	18.52		0
16QAM	1	0	18.66	18.60	18.50	0-1	0
	1	7	18.67	18.62	18.65		0
	1	14	18.64	18.66	18.53		0
	8	0	18.61	18.40	18.35	0-2	0
	8	4	18.56	18.39	18.40		0
	8	7	18.50	18.42	18.35		0
	15	0	18.49	18.40	18.32		0
64QAM	1	0	18.67	18.52	18.48	0-2	0
	1	7	18.68	18.51	18.44		0
	1	14	18.66	18.65	18.53		0
	8	0	18.65	18.36	18.35	0-3	0
	8	4	18.53	18.35	18.36		0
	8	7	18.55	18.45	18.32		0
	15	0	18.46	18.36	18.33		0

Table *H*-28
LTE Band 5 Conducted Power Antenna D - 1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.66	18.74	18.60	0	0
	1	2	18.62	18.45	18.56		0
	1	5	18.65	18.48	18.59		0
	3	0	18.61	18.55	18.48		0
	3	2	18.60	18.53	18.46		0
	3	3	18.57	18.54	18.47		0
	6	0	18.63	18.56	18.48	0-1	0
16QAM	1	0	18.69	18.66	18.49	0-1	0
	1	2	18.63	18.59	18.37		0
	1	5	18.65	18.67	18.35		0
	3	0	18.67	18.42	18.39		0
	3	2	18.68	18.40	18.49		0
	3	3	18.66	18.44	18.43		0
	6	0	18.58	18.35	18.32	0-2	0
64QAM	1	0	18.58	18.64	18.35	0-2	0
	1	2	18.62	18.62	18.45		0
	1	5	18.61	18.52	18.66		0
	3	0	18.68	18.50	18.55		0
	3	2	18.69	18.47	18.59		0
	3	3	18.66	18.45	18.54		0
	6	0	18.65	18.35	18.36	0-3	0

H.1.7 LTE Band 66

Table *H*-29
LTE Band 66 Conducted Power Antenna C - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.72	12.75	12.45	0	0
	1	36	12.72	12.82	12.55		0
	1	74	12.61	12.64	12.38		0
	36	0	12.74	12.64	12.60	0-1	0
	36	18	12.77	12.65	12.59		0
	36	37	12.69	12.53	12.57		0
	75	0	12.76	12.65	12.59		0
16QAM	1	0	12.90	12.94	12.75	0-1	0
	1	36	12.92	12.88	12.94		0
	1	74	12.70	12.60	12.63		0
	36	0	12.77	12.55	12.53	0-2	0
	36	18	12.75	12.48	12.58		0
	36	37	12.56	12.45	12.55		0
	75	0	12.71	12.48	12.57		0
64QAM	1	0	12.87	12.64	12.58	0-2	0
	1	36	12.67	12.68	12.71		0
	1	74	12.52	12.50	12.53		0
	36	0	12.70	12.67	12.50	0-3	0
	36	18	12.59	12.52	12.56		0
	36	37	12.49	12.56	12.56		0
	75	0	12.60	12.55	12.59		0

Table *H*-30
LTE Band 66 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.71	12.48	12.53	0	0
	1	25	12.67	12.44	12.41		0
	1	49	12.64	12.40	12.39		0
	25	0	12.65	12.52	12.49	0-1	0
	25	12	12.66	12.51	12.48		0
	25	25	12.66	12.50	12.47		0
	50	0	12.69	12.51	12.49		0
16QAM	1	0	12.82	12.88	12.88	0-1	0
	1	25	12.78	12.69	12.95		0
	1	49	12.84	12.91	12.63		0
	25	0	12.72	12.45	12.58	0-2	0
	25	12	12.70	12.43	12.55		0
	25	25	12.68	12.44	12.56		0
	50	0	12.68	12.38	12.52		0
64QAM	1	0	12.87	12.55	12.72	0-2	0
	1	25	12.76	12.63	12.65		0
	1	49	12.69	12.52	12.51		0
	25	0	12.86	12.56	12.72	0-3	0
	25	12	12.84	12.54	12.72		0
	25	25	12.85	12.55	12.71		0
	50	0	12.86	12.57	12.71		0

Table *H*-31
LTE Band 66 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.86	12.54	12.45	0	0
	1	12	12.80	12.48	12.39		0
	1	24	12.87	12.52	12.39		0
	12	0	12.75	12.52	12.51	0-1	0
	12	6	12.69	12.49	12.48		0
	12	13	12.70	12.47	12.47		0
	25	0	12.70	12.51	12.49		0
16QAM	1	0	12.98	12.80	12.92	0-1	0
	1	12	12.86	12.92	12.81		0
	1	24	12.96	13.04	12.75		0
	12	0	12.81	12.51	12.58	0-2	0
	12	6	12.79	12.54	12.60		0
	12	13	12.78	12.49	12.49		0
	25	0	12.74	12.47	12.54		0
64QAM	1	0	13.04	12.69	12.83	0-2	0
	1	12	13.23	13.08	12.82		0
	1	24	12.96	13.00	12.70		0
	12	0	12.81	12.48	12.56	0-3	0
	12	6	12.78	12.51	12.56		0
	12	13	12.77	12.47	12.49		0
	25	0	12.79	12.40	12.53		0

Table *H*-32
LTE Band 66 Conducted Power Antenna C - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.68	12.45	12.41	0	0
	1	7	12.73	12.44	12.44		0
	1	14	12.63	12.39	12.37		0
	8	0	12.77	12.54	12.52	0-1	0
	8	4	12.78	12.54	12.49		0
	8	7	12.71	12.49	12.49		0
	15	0	12.77	12.50	12.50		0
16QAM	1	0	13.19	12.77	12.86	0-1	0
	1	7	13.08	12.87	12.67		0
	1	14	12.99	12.71	12.61		0
	8	0	12.89	12.48	12.61	0-2	0
	8	4	12.87	12.43	12.53		0
	8	7	12.86	12.50	12.53		0
	15	0	12.85	12.43	12.54		0
64QAM	1	0	12.86	12.91	12.66	0-2	0
	1	7	13.19	12.68	12.67		0
	1	14	13.19	12.76	12.68		0
	8	0	12.85	12.52	12.59	0-3	0
	8	4	12.86	12.46	12.52		0
	8	7	12.84	12.48	12.47		0
	15	0	12.82	12.45	12.47		0

Table *H*-33
LTE Band 66 Conducted Power Antenna C - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.80	12.54	12.66	0	0
	1	2	12.72	12.52	12.61		0
	1	5	12.74	12.48	12.64		0
	3	0	12.78	12.58	12.48		0
	3	2	12.81	12.53	12.48		0
	3	3	12.79	12.54	12.49		0
	6	0	12.79	12.53	12.48	0-1	0
16QAM	1	0	13.22	12.79	12.71	0-1	0
	1	2	12.98	12.74	12.63		0
	1	5	12.95	12.83	12.72		0
	3	0	12.84	12.59	12.57		0
	3	2	12.91	12.53	12.61		0
	3	3	12.93	12.59	12.59		0
	6	0	12.94	12.46	12.52	0-2	0
64QAM	1	0	13.03	12.78	12.59	0-2	0
	1	2	12.94	12.79	12.73		0
	1	5	13.20	12.68	12.56		0
	3	0	12.93	12.53	12.61		0
	3	2	12.88	12.57	12.57		0
	3	3	12.99	12.60	12.56		0
	6	0	12.87	12.52	12.55	0-3	0

Table *H*-34
LTE Band 66 Conducted Power Antenna D - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.90	12.71	12.96	0	0
	1	36	12.83	12.73	13.01		0
	1	74	12.76	12.65	12.91		0
	36	0	12.88	12.81	12.75	0-1	0
	36	18	12.86	12.80	12.82		0
	36	37	12.85	12.75	12.74		0
	75	0	12.87	12.80	12.82		0
16QAM	1	0	13.15	12.86	12.99	0-1	0
	1	36	13.11	13.04	13.04		0
	1	74	13.06	12.89	12.83		0
	36	0	12.77	12.68	12.63	0-2	0
	36	18	12.73	12.65	12.70		0
	36	37	12.74	12.60	12.62		0
	75	0	12.74	12.64	12.70		0
64QAM	1	0	13.15	13.11	12.95	0-2	0
	1	36	13.11	12.93	12.87		0
	1	74	12.92	12.80	12.83		0
	36	0	12.78	12.66	12.72	0-3	0
	36	18	12.74	12.67	12.76		0
	36	37	12.75	12.62	12.69		0
	75	0	12.72	12.66	12.73		0

Table *H*-35
LTE Band 66 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.97	12.74	12.70	0	0
	1	25	12.83	12.67	12.68		0
	1	49	12.84	12.67	12.71		0
	25	0	12.91	12.75	12.79	0-1	0
	25	12	12.86	12.71	12.75		0
	25	25	12.82	12.69	12.73		0
	50	0	12.89	12.73	12.76		0
16QAM	1	0	13.02	13.02	13.01	0-1	0
	1	25	13.04	13.13	12.97		0
	1	49	12.91	12.90	12.85		0
	25	0	12.78	12.64	12.67	0-2	0
	25	12	12.72	12.58	12.63		0
	25	25	12.69	12.57	12.63		0
	50	0	12.74	12.59	12.63		0
64QAM	1	0	13.00	12.95	12.92	0-2	0
	1	25	12.86	13.06	12.82		0
	1	49	12.93	13.01	12.92		0
	25	0	12.83	12.63	12.69	0-3	0
	25	12	12.77	12.57	12.66		0
	25	25	12.72	12.60	12.64		0
	50	0	12.78	12.63	12.67		0

Table *H*-36
LTE Band 66 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	13.02	12.91	12.71	0	0
	1	12	12.95	12.88	12.65		0
	1	24	12.91	12.88	12.72		0
	12	0	12.95	12.79	12.77	0-1	0
	12	6	12.93	12.76	12.75		0
	12	13	12.75	12.61	12.66		0
	25	0	12.79	12.63	12.60		0
16QAM	1	0	13.15	13.17	12.99	0-1	0
	1	12	13.11	12.94	12.94		0
	1	24	13.01	13.00	12.95		0
	12	0	12.93	12.73	12.70	0-2	0
	12	6	12.86	12.65	12.66		0
	12	13	12.85	12.64	12.73		0
	25	0	12.81	12.67	12.65		0
64QAM	1	0	13.15	12.87	12.95	0-2	0
	1	12	12.92	13.04	12.77		0
	1	24	13.12	12.84	13.14		0
	12	0	12.91	12.72	12.65	0-3	0
	12	6	12.85	12.70	12.71		0
	12	13	12.77	12.65	12.70		0
	25	0	12.87	12.66	12.61		0

Table *H*-37
LTE Band 66 Conducted Power Antenna D - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.93	12.68	12.67	0	0
	1	7	12.92	12.72	12.76		0
	1	14	12.87	12.66	12.69		0
	8	0	13.00	12.79	12.77	0-1	0
	8	4	12.98	12.76	12.83		0
	8	7	12.99	12.78	12.83		0
	15	0	12.99	12.77	12.84		0
16QAM	1	0	13.16	12.96	12.95	0-1	0
	1	7	13.10	13.04	12.96		0
	1	14	13.08	13.20	12.98		0
	8	0	13.00	12.72	12.66	0-2	0
	8	4	12.94	12.69	12.75		0
	8	7	12.92	12.71	12.73		0
	15	0	12.91	12.70	12.73		0
64QAM	1	0	12.93	13.08	12.94	0-2	0
	1	7	12.90	13.05	12.98		0
	1	14	12.84	12.95	12.99		0
	8	0	12.95	12.73	12.69	0-3	0
	8	4	12.93	12.74	12.79		0
	8	7	12.94	12.77	12.79		0
	15	0	12.89	12.69	12.74		0

Table *H*-38
LTE Band 66 Conducted Power Antenna D - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.99	12.73	12.97	0	0
	1	2	12.97	12.70	12.93		0
	1	5	12.94	12.72	12.97		0
	3	0	13.04	12.79	12.82		0
	3	2	13.03	12.76	12.83		0
	3	3	12.99	12.80	12.82		0
	6	0	13.01	12.76	12.83	0-1	0
16QAM	1	0	13.14	13.10	13.07	0-1	0
	1	2	13.16	12.99	12.92		0
	1	5	12.99	12.86	12.99		0
	3	0	13.02	12.81	12.91		0
	3	2	13.08	12.79	12.90		0
	3	3	13.05	12.82	12.88		0
	6	0	13.03	12.77	12.78	0-2	0
64QAM	1	0	13.12	13.15	12.95	0-2	0
	1	2	13.07	13.10	13.00		0
	1	5	13.09	12.90	12.90		0
	3	0	13.02	12.88	13.07		0
	3	2	13.03	12.83	12.92		0
	3	3	13.06	12.87	12.95		0
	6	0	12.97	12.74	12.80	0-3	0

H.1.8 LTE Band 25

Table *H*-39
LTE Band 25 Conducted Power Antenna C - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.35	12.10	12.26	0	0
	1	36	12.35	12.12	12.24		0
	1	74	12.27	12.15	12.18		0
	36	0	12.26	12.10	12.33	0-1	0
	36	18	12.25	12.20	12.34		0
	36	37	12.22	12.22	12.33		0
	75	0	12.24	12.22	12.31		0
16QAM	1	0	12.40	12.43	12.62	0-1	0
	1	36	12.30	12.51	12.76		0
	1	74	12.61	12.42	12.53		0
	36	0	12.33	12.17	12.35	0-2	0
	36	18	12.32	12.24	12.35		0
	36	37	12.25	12.27	12.35		0
	75	0	12.30	12.30	12.33		0
64QAM	1	0	12.32	12.20	12.24	0-2	0
	1	36	12.38	12.25	12.28		0
	1	74	12.30	12.11	12.19		0
	36	0	12.25	12.13	12.33	0-3	0
	36	18	12.27	12.19	12.35		0
	36	37	12.25	12.22	12.34		0
	75	0	12.25	12.21	12.31		0

Table *H*-40
LTE Band 25 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.18	12.12	12.22	0	0
	1	25	12.13	12.16	12.11		0
	1	49	12.10	12.14	12.13		0
	25	0	12.28	12.17	12.17	0-1	0
	25	12	12.20	12.15	12.17		0
	25	25	12.18	12.16	12.24		0
	50	0	12.19	12.17	12.18		0
16QAM	1	0	12.57	12.47	12.59	0-1	0
	1	25	12.43	12.38	12.60		0
	1	49	12.62	12.60	12.45		0
	25	0	12.30	12.17	12.24	0-2	0
	25	12	12.23	12.14	12.18		0
	25	25	12.20	12.16	12.30		0
	50	0	12.20	12.15	12.21		0
64QAM	1	0	12.15	12.20	12.18	0-2	0
	1	25	12.14	12.15	12.10		0
	1	49	12.13	12.10	12.14		0
	25	0	12.26	12.15	12.14	0-3	0
	25	12	12.21	12.12	12.14		0
	25	25	12.22	12.11	12.24		0
	50	0	12.21	12.13	12.15		0

Table *H*-41
LTE Band 25 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.23	12.23	12.13	0	0
	1	12	12.26	12.18	12.14		0
	1	24	12.27	12.21	12.12		0
	12	0	12.32	12.15	12.18	0-1	0
	12	6	12.32	12.11	12.24		0
	12	13	12.28	12.11	12.24		0
	25	0	12.32	12.14	12.26		0
16QAM	1	0	12.43	12.40	12.43	0-1	0
	1	12	12.59	12.63	12.47		0
	1	24	12.69	12.39	12.57		0
	12	0	12.36	12.27	12.24	0-2	0
	12	6	12.38	12.15	12.29		0
	12	13	12.35	12.18	12.32		0
	25	0	12.34	12.16	12.27		0
64QAM	1	0	12.56	12.63	12.40	0-2	0
	1	12	12.50	12.56	12.58		0
	1	24	12.53	12.34	12.52		0
	12	0	12.33	12.22	12.20	0-3	0
	12	6	12.31	12.16	12.31		0
	12	13	12.26	12.22	12.29		0
	25	0	12.32	12.19	12.27		0

Table *H*-42
LTE Band 25 Conducted Power Antenna C - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.12	12.15	12.11	0	0
	1	7	12.24	12.11	12.17		0
	1	14	12.19	12.13	12.12		0
	8	0	12.30	12.14	12.21	0-1	0
	8	4	12.32	12.14	12.24		0
	8	7	12.31	12.12	12.23		0
	15	0	12.32	12.14	12.26		0
16QAM	1	0	12.50	12.51	12.62	0-1	0
	1	7	12.46	12.51	12.60		0
	1	14	12.39	12.40	12.47		0
	8	0	12.37	12.20	12.28	0-2	0
	8	4	12.35	12.20	12.30		0
	8	7	12.37	12.20	12.30		0
	15	0	12.37	12.16	12.34		0
64QAM	1	0	12.39	12.50	12.62	0-2	0
	1	7	12.51	12.59	12.67		0
	1	14	12.66	12.33	12.48		0
	8	0	12.34	12.22	12.34	0-3	0
	8	4	12.39	12.24	12.37		0
	8	7	12.38	12.26	12.37		0
	15	0	12.36	12.18	12.36		0

Table *H*-43
LTE Band 25 Conducted Power Antenna C - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.16	12.10	12.35	0	0
	1	2	12.17	12.13	12.31		0
	1	5	12.20	12.12	12.34		0
	3	0	12.21	12.15	12.20		0
	3	2	12.24	12.14	12.19		0
	3	3	12.26	12.15	12.20		0
	6	0	12.25	12.11	12.20	0-1	0
16QAM	1	0	12.41	12.41	12.39	0-1	0
	1	2	12.33	12.33	12.34		0
	1	5	12.27	12.22	12.38		0
	3	0	12.29	12.16	12.33		0
	3	2	12.33	12.15	12.22		0
	3	3	12.37	12.21	12.32		0
	6	0	12.27	12.17	12.28	0-2	0
64QAM	1	0	12.50	12.25	12.48	0-2	0
	1	2	12.57	12.34	12.34		0
	1	5	12.44	12.41	12.31		0
	3	0	12.33	12.21	12.25		0
	3	2	12.27	12.17	12.14		0
	3	3	12.38	12.17	12.16		0
	6	0	12.26	12.16	12.21	0-3	0

Table *H*-44
LTE Band 25 Conducted Power Antenna D - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	11.65	11.62	11.65	0	0
	1	36	11.55	11.74	11.66		0
	1	74	11.58	11.76	11.55		0
	36	0	11.70	11.54	11.70	0-1	0
	36	18	11.60	11.61	11.72		0
	36	37	11.56	11.63	11.65		0
	75	0	11.62	11.65	11.74		0
16QAM	1	0	11.72	11.60	11.76	0-1	0
	1	36	11.85	11.78	11.78		0
	1	74	11.81	11.79	11.81		0
	36	0	11.51	11.39	11.46	0-2	0
	36	18	11.43	11.46	11.51		0
	36	37	11.39	11.45	11.51		0
	75	0	11.45	11.47	11.47		0
64QAM	1	0	11.84	11.37	11.80	0-2	0
	1	36	11.69	11.64	11.81		0
	1	74	11.71	11.82	11.66		0
	36	0	11.51	11.34	11.50	0-3	0
	36	18	11.41	11.42	11.55		0
	36	37	11.36	11.46	11.55		0
	75	0	11.43	11.46	11.48		0

Table *H*-45
LTE Band 25 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	11.71	11.51	11.54	0	0
	1	25	11.58	11.48	11.46		0
	1	49	11.49	11.59	11.59		0
	25	0	11.66	11.59	11.58	0-1	0
	25	12	11.61	11.55	11.54		0
	25	25	11.52	11.58	11.62		0
	50	0	11.62	11.58	11.56		0
16QAM	1	0	11.89	11.51	11.84	0-1	0
	1	25	11.90	11.67	11.52		0
	1	49	11.80	11.63	11.74		0
	25	0	11.53	11.39	11.39	0-2	0
	25	12	11.40	11.34	11.35		0
	25	25	11.37	11.38	11.36		0
	50	0	11.44	11.40	11.38		0
64QAM	1	0	11.83	11.51	11.77	0-2	0
	1	25	11.87	11.49	11.57		0
	1	49	11.66	11.69	11.58		0
	25	0	11.43	11.44	11.39	0-3	0
	25	12	11.40	11.37	11.34		0
	25	25	11.33	11.44	11.41		0
	50	0	11.41	11.38	11.36		0

Table *H*-46
LTE Band 25 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	11.87	11.57	11.48	0	0
	1	12	11.87	11.53	11.58		0
	1	24	11.84	11.62	11.61		0
	12	0	11.77	11.56	11.61	0-1	0
	12	6	11.73	11.56	11.64		0
	12	13	11.76	11.57	11.68		0
	25	0	11.75	11.57	11.67		0
16QAM	1	0	11.99	11.64	11.66	0-1	0
	1	12	11.95	11.65	11.63		0
	1	24	11.74	11.82	11.86		0
	12	0	11.68	11.43	11.43	0-2	0
	12	6	11.54	11.48	11.37		0
	12	13	11.59	11.51	11.48		0
	25	0	11.54	11.43	11.37		0
64QAM	1	0	11.77	11.68	11.39	0-2	0
	1	12	11.95	11.92	11.60		0
	1	24	11.55	11.75	11.94		0
	12	0	11.55	11.48	11.42	0-3	0
	12	6	11.51	11.40	11.45		0
	12	13	11.51	11.46	11.48		0
	25	0	11.50	11.43	11.41		0

Table *H*-47
LTE Band 25 Conducted Power Antenna D - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	11.66	11.48	11.45	0	0
	1	7	11.77	11.51	11.51		0
	1	14	11.69	11.47	11.48		0
	8	0	11.75	11.57	11.58	0-1	0
	8	4	11.75	11.55	11.60		0
	8	7	11.75	11.58	11.62		0
	15	0	11.76	11.59	11.62		0
16QAM	1	0	11.68	11.78	11.55	0-1	0
	1	7	12.00	11.63	11.85		0
	1	14	11.89	11.58	11.70		0
	8	0	11.61	11.41	11.40	0-2	0
	8	4	11.59	11.44	11.47		0
	8	7	11.57	11.42	11.46		0
	15	0	11.64	11.38	11.48		0
64QAM	1	0	11.93	11.53	11.50	0-2	0
	1	7	11.98	11.62	11.70		0
	1	14	11.81	11.50	11.59		0
	8	0	11.58	11.39	11.40	0-3	0
	8	4	11.66	11.46	11.49		0
	8	7	11.59	11.44	11.51		0
	15	0	11.65	11.39	11.44		0

Table *H*-48
LTE Band 25 Conducted Power Antenna D - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	11.72	11.47	11.59	0	0
	1	2	11.72	11.58	11.58		0
	1	5	11.76	11.63	11.61		0
	3	0	11.75	11.50	11.63		0
	3	2	11.77	11.48	11.64		0
	3	3	11.78	11.49	11.63		0
	6	0	11.75	11.48	11.61	0-1	0
16QAM	1	0	11.97	11.54	11.62	0-1	0
	1	2	11.95	11.59	11.70		0
	1	5	11.94	11.72	11.74		0
	3	0	11.67	11.55	11.65		0
	3	2	11.71	11.59	11.60		0
	3	3	11.78	11.55	11.67		0
	6	0	11.64	11.52	11.56	0-2	0
64QAM	1	0	11.90	11.70	11.56	0-2	0
	1	2	11.91	11.58	11.91		0
	1	5	11.93	11.74	11.84		0
	3	0	11.63	11.53	11.77		0
	3	2	11.67	11.60	11.72		0
	3	3	11.74	11.63	11.73		0
	6	0	11.56	11.49	11.46	0-3	0

H.1.9 LTE Band 30

Table *H*-49
LTE Band 30 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	12.78	0	0
	1	12	12.85		0
	1	24	12.84		0
	12	0	12.67	0-1	0
	12	6	12.73		0
	12	13	12.72		0
	25	0	12.76		0
16QAM	1	0	12.70	0-1	0
	1	12	12.68		0
	1	24	12.69		0
	12	0	12.35	0-2	0
	12	6	12.33		0
	12	13	12.33		0
	25	0	12.29		0
64QAM	1	0	12.84	0-2	0
	1	12	12.81		0
	1	24	12.85		0
	12	0	12.43	0-3	0
	12	6	12.51		0
	12	13	12.43		0
	25	0	12.54		0

Note: LTE Band 30 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table *H*-50
LTE Band 30 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	12.63	0	0
	1	12	12.75		0
	1	24	12.70		0
	12	0	12.51	0-1	0
	12	6	12.53		0
	12	13	12.51		0
	25	0	12.61		0
16QAM	1	0	12.57	0-1	0
	1	12	12.70		0
	1	24	12.53		0
	12	0	12.12	0-2	0
	12	6	12.17		0
	12	13	12.11		0
	25	0	12.17		0
64QAM	1	0	12.45	0-2	0
	1	12	12.50		0
	1	24	12.46		0
	12	0	12.03	0-3	0
	12	6	12.10		0
	12	13	12.04		0
	25	0	12.13		0

Note: LTE Band 30 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

H.1.10 LTE Band 7

Table *H*-51
LTE Band 7 Conducted Power Antenna C - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.13	12.05	11.76	0	0
	1	36	11.96	11.97	11.74		0
	1	74	12.09	11.96	11.75		0
	36	0	11.90	12.00	11.77	0-1	0
	36	18	11.89	11.98	11.76		0
	36	37	11.87	12.00	11.72		0
	75	0	11.95	12.02	11.81		0
16QAM	1	0	12.33	12.20	12.02	0-1	0
	1	36	12.25	12.17	12.04		0
	1	74	12.29	12.18	12.12		0
	36	0	11.93	11.93	11.71	0-2	0
	36	18	11.90	11.94	11.76		0
	36	37	11.89	11.93	11.74		0
	75	0	11.87	11.97	11.80		0
64QAM	1	0	12.33	12.31	12.11	0-2	0
	1	36	12.19	12.33	12.32		0
	1	74	12.31	12.30	12.23		0
	36	0	12.05	12.12	11.93	0-3	0
	36	18	12.06	12.13	11.96		0
	36	37	12.03	12.10	11.88		0
	75	0	12.06	12.11	11.97		0

Table *H*-52
LTE Band 7 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.11	12.06	11.82	0	0
	1	25	11.89	11.98	11.75		0
	1	49	11.89	12.01	11.85		0
	25	0	12.02	12.09	11.89	0-1	0
	25	12	11.99	12.08	11.82		0
	25	25	11.98	12.08	11.86		0
	50	0	12.02	12.08	11.83		0
16QAM	1	0	12.30	12.33	12.09	0-1	0
	1	25	12.29	12.32	12.14		0
	1	49	12.30	12.28	12.10		0
	25	0	12.07	12.14	11.87	0-2	0
	25	12	12.00	12.12	11.81		0
	25	25	12.03	12.12	11.87		0
	50	0	12.03	12.10	11.81		0
64QAM	1	0	12.34	12.29	12.18	0-2	0
	1	25	12.20	12.27	12.02		0
	1	49	12.34	12.32	12.06		0
	25	0	12.00	12.12	11.93	0-3	0
	25	12	11.96	12.10	11.84		0
	25	25	12.00	12.10	11.91		0
	50	0	12.00	12.11	11.84		0

Table *H*-53
LTE Band 7 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.25	11.99	11.83	0	0
	1	12	12.18	11.97	11.88		0
	1	24	12.12	12.05	11.96		0
	12	0	12.16	12.11	11.88	0-1	0
	12	6	12.06	12.10	11.91		0
	12	13	12.02	12.11	11.93		0
	25	0	12.06	12.11	11.93		0
16QAM	1	0	12.32	12.29	12.12	0-1	0
	1	12	12.28	12.33	12.20		0
	1	24	12.32	12.30	12.24		0
	12	0	12.28	12.15	11.91	0-2	0
	12	6	12.16	12.15	11.94		0
	12	13	12.10	12.15	11.99		0
	25	0	12.09	12.15	11.96		0
64QAM	1	0	12.28	12.31	12.07	0-2	0
	1	12	12.17	12.28	12.15		0
	1	24	12.05	12.29	12.16		0
	12	0	12.19	12.16	11.93	0-3	0
	12	6	12.08	12.16	11.96		0
	12	13	12.04	12.15	11.97		0
	25	0	12.07	12.10	11.96		0

Table *H*-54
LTE Band 7 Conducted Power Antenna D - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	11.82	11.88	11.83	0	0
	1	36	11.77	11.86	11.92		0
	1	74	11.78	11.73	11.97		0
	36	0	11.81	11.92	11.83	0-1	0
	36	18	11.83	11.87	11.85		0
	36	37	11.81	11.87	11.84		0
	75	0	11.85	11.88	11.86		0
16QAM	1	0	12.08	11.98	11.88	0-1	0
	1	36	12.02	12.02	12.00		0
	1	74	12.08	11.90	12.08		0
	36	0	11.74	11.77	11.66	0-2	0
	36	18	11.77	11.70	11.70		0
	36	37	11.74	11.73	11.70		0
	75	0	11.78	11.74	11.75		0
64QAM	1	0	12.13	12.16	12.00	0-2	0
	1	36	12.16	12.07	12.29		0
	1	74	12.24	11.93	12.10		0
	36	0	11.61	11.64	11.52	0-3	0
	36	18	11.69	11.59	11.54		0
	36	37	11.69	11.49	11.47		0
	75	0	11.67	11.58	11.57		0

Table *H*-55
LTE Band 7 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.04	11.94	11.76	0	0
	1	25	11.92	11.90	11.73		0
	1	49	11.91	11.93	11.85		0
	25	0	11.98	11.90	11.85	0-1	0
	25	12	11.94	11.92	11.82		0
	25	25	11.95	11.92	11.90		0
	50	0	11.97	11.91	11.87		0
16QAM	1	0	12.10	12.07	11.80	0-1	0
	1	25	11.92	12.02	11.78		0
	1	49	11.90	12.05	11.89		0
	25	0	11.65	11.67	11.61	0-2	0
	25	12	11.62	11.63	11.54		0
	25	25	11.67	11.64	11.60		0
	50	0	11.62	11.66	11.53		0
64QAM	1	0	12.21	12.17	12.05	0-2	0
	1	25	12.23	12.10	11.94		0
	1	49	12.28	12.01	12.05		0
	25	0	11.61	11.50	11.55	0-3	0
	25	12	11.63	11.59	11.46		0
	25	25	11.63	11.55	11.55		0
	50	0	11.66	11.61	11.48		0

Table *H*-56
LTE Band 7 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	11.75	11.97	11.84	0	0
	1	12	11.75	11.94	11.88		0
	1	24	11.71	11.98	11.95		0
	12	0	11.96	11.89	11.89	0-1	0
	12	6	11.94	11.90	11.91		0
	12	13	11.93	11.91	11.92		0
	25	0	11.97	11.92	11.94		0
16QAM	1	0	12.05	11.95	11.84	0-1	0
	1	12	12.01	11.94	11.85		0
	1	24	11.91	11.97	12.01		0
	12	0	11.85	11.69	11.63	0-2	0
	12	6	11.75	11.66	11.66		0
	12	13	11.74	11.66	11.65		0
	25	0	11.70	11.65	11.64		0
64QAM	1	0	12.28	12.14	12.10	0-2	0
	1	12	12.12	11.96	12.22		0
	1	24	12.16	12.10	12.15		0
	12	0	11.63	11.64	11.53	0-3	0
	12	6	11.75	11.63	11.54		0
	12	13	11.65	11.63	11.60		0
	25	0	11.60	11.62	11.49		0

H.1.11 LTE Band 41

Table *H*-57
LTE Band 41 Conducted Power Antenna C - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	13.72	13.70	13.58	13.67	13.53	0	0
	1	36	13.80	13.72	13.62	13.73	13.63		0
	1	74	13.75	13.56	13.57	13.61	13.57		0
	36	0	13.80	13.64	13.60	13.75	13.57	0-1	0
	36	18	13.86	13.67	13.66	13.75	13.65		0
	36	37	13.84	13.54	13.66	13.71	13.63		0
	75	0	13.79	13.91	13.66	13.72	13.63		0
16QAM	1	0	14.24	13.95	14.01	13.92	13.58	0-1	0
	1	36	14.24	13.94	14.13	13.92	13.78		0
	1	74	14.11	13.76	13.82	13.72	13.90		0
	36	0	14.20	14.09	13.91	13.89	13.76	0-2	0
	36	18	13.70	14.13	13.97	13.97	13.81		0
	36	37	14.25	14.04	13.95	13.91	13.78		0
	75	0	14.22	14.34	13.94	13.98	13.79		0
64QAM	1	0	14.20	14.15	13.81	14.01	13.59	0-2	0
	1	36	14.18	14.06	14.08	14.13	13.62		0
	1	74	14.01	13.85	13.97	13.94	13.68		0
	36	0	14.18	14.13	13.90	13.88	13.77	0-3	0
	36	18	14.28	14.14	13.93	13.97	13.83		0
	36	37	14.24	14.04	13.93	13.88	13.80		0
	75	0	14.20	14.14	13.94	13.97	13.78		0

Table *H*-58
LTE Band 41 Conducted Power Antenna C - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	13.83	13.62	13.67	13.75	13.60	0	0
	1	25	13.79	13.63	13.69	13.74	13.64		0
	1	49	13.85	13.54	13.72	13.77	13.71		0
	25	0	13.78	13.63	13.60	13.70	13.56	0-1	0
	25	12	13.84	13.62	13.61	13.67	13.57		0
	25	25	13.83	13.54	13.64	13.65	13.59		0
	50	0	13.78	13.65	13.63	13.68	13.60		0
16QAM	1	0	14.05	14.04	13.86	13.88	13.79	0-1	0
	1	25	14.18	14.16	13.93	13.99	13.59		0
	1	49	14.16	13.92	13.80	14.00	13.69		0
	25	0	14.22	14.08	13.95	13.91	13.72	0-2	0
	25	12	14.22	14.06	13.92	13.91	13.69		0
	25	25	14.21	13.98	13.95	13.88	13.75		0
	50	0	14.21	14.06	13.94	13.94	13.76		0
64QAM	1	0	14.30	14.07	14.05	13.85	13.69	0-2	0
	1	25	14.33	14.08	13.98	13.87	13.71		0
	1	49	14.24	13.95	14.06	13.89	13.76		0
	25	0	14.26	14.09	13.92	13.85	13.78	0-3	0
	25	12	14.28	14.08	13.93	13.92	13.77		0
	25	25	14.24	14.02	13.97	13.88	13.75		0
	50	0	14.21	14.10	13.92	13.90	13.75		0

Table *H*-59
LTE Band 41 Conducted Power Antenna C - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	13.89	13.66	13.73	13.71	13.60	0	0
	1	12	13.83	13.73	13.74	13.65	13.70		0
	1	24	13.92	13.74	13.77	13.67	13.72		0
	12	0	13.81	13.66	13.63	13.68	13.59	0-1	0
	12	6	13.83	13.65	13.64	13.67	13.60		0
	12	13	13.79	13.66	13.67	13.65	13.60		0
	25	0	13.76	13.66	13.65	13.68	13.60		0
16QAM	1	0	14.13	14.12	14.00	14.01	13.80	0-1	0
	1	12	14.27	14.10	13.91	13.85	13.66		0
	1	24	14.23	14.25	14.07	14.10	13.85		0
	12	0	14.30	14.07	13.96	13.94	13.79	0-2	0
	12	6	14.25	14.03	13.95	13.99	13.75		0
	12	13	14.26	14.04	13.98	13.93	13.79		0
	25	0	14.23	14.05	13.97	13.96	13.79		0
64QAM	1	0	14.22	14.12	13.97	14.04	13.65	0-2	0
	1	12	14.30	14.17	13.88	14.03	13.69		0
	1	24	14.26	14.08	13.95	14.13	13.73		0
	12	0	14.21	14.07	13.92	13.88	13.75	0-3	0
	12	6	14.27	14.13	13.91	13.91	13.74		0
	12	13	14.25	14.02	13.93	13.93	13.75		0
	25	0	14.18	14.11	13.94	13.94	13.72		0

Table *H*-60
LTE Band 41 Conducted Power Antenna D - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	14.04	13.95	13.95	13.75	13.62	0	0
	1	36	14.19	13.99	13.99	13.76	13.67		0
	1	74	14.04	13.81	13.82	13.62	13.51		0
	36	0	13.99	13.89	13.87	13.74	13.55	0-1	0
	36	18	14.07	13.94	13.90	13.76	13.58		0
	36	37	14.03	13.83	13.86	13.70	13.53		0
	75	0	14.01	14.37	13.90	13.74	13.58		0
16QAM	1	0	14.19	14.05	14.06	13.96	13.98	0-1	0
	1	36	14.13	13.97	14.18	13.83	14.10		0
	1	74	14.17	13.93	14.08	13.77	13.86		0
	36	0	14.19	14.01	14.11	13.81	13.86	0-2	0
	36	18	14.18	13.99	14.04	13.81	13.87		0
	36	37	14.14	13.92	13.88	13.78	13.81		0
	75	0	14.13	13.98	14.06	13.82	13.88		0
64QAM	1	0	14.09	13.77	14.05	13.58	13.61	0-2	0
	1	36	14.05	13.92	14.15	13.53	13.85		0
	1	74	13.99	13.72	13.87	13.56	13.63		0
	36	0	13.93	13.77	13.84	13.57	13.58	0-3	0
	36	18	13.91	13.72	13.84	13.58	13.59		0
	36	37	13.89	13.73	13.77	13.89	13.52		0
	75	0	13.86	13.76	13.83	13.57	13.60		0

Table *H*-61
LTE Band 41 Conducted Power Antenna D - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	14.01	14.18	14.01	13.88	14.04	0	0
	1	25	13.96	14.11	13.93	13.89	14.02		0
	1	49	14.02	14.08	13.94	13.97	13.95		0
	25	0	13.97	14.07	13.89	13.89	13.88	0-1	0
	25	12	14.02	14.00	13.82	13.86	13.86		0
	25	25	13.95	14.02	13.84	13.86	13.83		0
	50	0	13.93	14.03	13.85	13.87	13.86		0
16QAM	1	0	14.23	13.95	14.15	14.04	13.84	0-1	0
	1	25	14.15	14.01	14.08	13.88	13.90		0
	1	49	14.13	13.85	14.17	13.88	13.83		0
	25	0	14.19	14.07	14.10	13.96	13.78	0-2	0
	25	12	14.14	13.95	14.05	13.95	13.83		0
	25	25	14.16	14.01	14.04	14.02	13.81		0
	50	0	14.09	14.00	14.08	13.98	13.84		0
64QAM	1	0	14.09	13.75	13.76	14.03	13.52	0-2	0
	1	25	13.90	13.82	13.73	13.73	13.51		0
	1	49	13.97	13.76	13.89	13.76	13.51		0
	25	0	13.82	13.75	13.78	13.72	13.50	0-3	0
	25	12	13.87	13.63	13.73	13.69	13.53		0
	25	25	13.84	13.69	13.73	13.62	13.52		0
	50	0	13.80	13.67	13.74	13.59	13.50		0

Table *H*-62
LTE Band 41 Conducted Power Antenna D - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	14.19	14.03	14.07	13.90	13.89	0	0
	1	12	14.12	14.09	14.00	13.85	14.02		0
	1	24	14.13	14.11	14.03	13.85	13.96		0
	12	0	14.06	14.01	13.88	13.90	13.90	0-1	0
	12	6	14.10	14.02	13.87	13.89	13.89		0
	12	13	14.01	14.03	13.89	13.89	13.88		0
	25	0	14.00	14.03	13.89	13.91	13.90		0
16QAM	1	0	14.07	13.78	13.93	13.79	13.61	0-1	0
	1	12	13.99	13.70	13.90	13.66	13.73		0
	1	24	14.03	13.73	13.94	13.60	13.62		0
	12	0	13.92	13.71	13.81	13.58	13.59	0-2	0
	12	6	13.90	13.71	13.81	13.50	13.59		0
	12	13	13.79	13.69	13.82	13.56	13.53		0
	25	0	13.85	13.72	13.83	13.56	13.58		0
64QAM	1	0	14.11	13.71	13.79	13.66	13.60	0-2	0
	1	12	14.01	13.64	14.01	13.53	13.55		0
	1	24	14.09	13.80	13.97	13.56	13.68		0
	12	0	13.81	13.62	13.81	13.57	13.53	0-3	0
	12	6	13.84	13.69	13.77	13.51	13.54		0
	12	13	13.82	13.67	13.70	13.83	13.57		0
	25	0	13.73	13.69	13.77	13.50	13.56		0